Whistle Stop Project

Final Environmental Impact Statement

United States
Department of
Agriculture

Forest
Service

Chugach
National Forest

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Abstract

This Environmental Impact Statement (EIS) provides the analysis of the Proposed Action and five alternatives considered for development and implementation of the Whistle Stop Project. The Whistle Stop Project has been developed through a partnership between the U.S. Forest Service and the Alaska Railroad Corporation.

This Final EIS has been prepared pursuant to Section 102 (2) (c) of the National Environmental Policy Act of 1969, as amended (NEPA). In accordance with NEPA, this EIS documents the detailed analysis of environmental impacts of implementing the Proposed Action and five alternatives considered. This analysis focuses on the direct, indirect, and cumulative impacts to the physical, biological, and social aspects on the human environment. The alternatives to the Proposed Action include No Action, as required by NEPA, and action Alternatives 1, 2, 3 and 4. The EIS also discusses the purpose and need for the Proposed Action, describes the affected environment, and identifies potential mitigation measures to lessen any impacts. Comments on the Draft EIS are summarized and the Forest Service has responded to these comments.

The Forest Service is the lead agency undertaking this NEPA process and is responsible for the decisions made in consideration of it.

Final Environmental Impact Statement for the Whistle Stop Project

May 2006

United States Department of Agriculture
Forest Service – Alaska Region

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Summary

Introduction

The Chugach National Forest (CNF), in partnership with the Alaska Railroad Corporation (ARRC), has proposed to develop the Whistle Stop Project, utilizing the ARRC to provide access to backcountry recreation opportunities on National Forest System (NFS) lands on the Kenai Peninsula between Portage and Moose Pass. The Final Environmental Impact Statement (FEIS) assesses and discloses the potential environmental effects of developing this project.

Purpose and Need

The purpose and need for this project is to:

1. Provide additional backcountry access and increase recreation opportunities available to Chugach National Forest visitors.

2. Provide opportunities for visitor information and education.

3. Provide a unique transportation and recreation experience found nowhere else in the United States, while encouraging alternative transportation and public safety.

Proposed Action

The Proposed Action, utilizing approximately 25 miles of Alaska Railroad track between Luebner Lake and Trail Creek, aims to provide various facilities capable of meeting the diverse needs of visitors hoping to engage in either a day use or multi-day adventure into a remote area of the Chugach National Forest. As the area currently does not have recreation facilities available, the Proposed Action will facilitate opportunities for a wide variety of recreation experiences. Whistle Stop service is proposed to be available from approximately mid-May to mid-September, with the majority of facilities available during this time only. The proposed recreation facilities include up to six developed Whistle Stops and supporting recreation development; a trail system connecting four of the Whistle Stop sites; wildlife/scenic viewing platforms; and a variety of overnight accommodations, including public-use cabins and dispersed campsites.

Issues

NEPA requires that the public and other agencies be involved in federal agency decision-making. An important part of this process is scoping. Council of Environmental Quality (CEQ) regulations refer to scoping as a process to determine the scope of the issues to be addressed in an EIS and to identify the significant issues related to a proposed action (40 CFR 1501.7).

The major steps in the scoping process for this project included: 1) sending a notice to agencies, organizations, media, and individuals about the proposal and inviting comment; 2) holding public meetings in Anchorage, Seward, Girdwood, Moose Pass, Cooper Landing and Soldotna to discuss the proposal and accept comments; 3) listing the project in the Chugach National Forest Schedule of Proposed Actions beginning in April 2005; and 4) publishing in the Federal Register a Notice of Intent to prepare an EIS.

As a result of the scoping process, four issues were identified which guided the analysis documented in this EIS.

Issue 1: Recreation settings (physical)
Recreation facility development has the potential to negatively impact the backcountry environment of the project area.

Concern was expressed regarding the level of recreation facility development proposed in the project area. Respondents noted that with development of the proposed level of recreation facilities, the area would not maintain the backcountry environment that is being promoted. Suggestions to minimize the impact of facility development included reducing the number of or eliminating facilities such as cabins, individual and group campsites, and viewing platforms.

Issue 2: Recreation settings (social)
Increased visitation to the project area will raise the number of encounters and alter the backcountry feel of the area.

Concerns indicated that with enhanced transportation to multiple sites in the project area, visitation would increase and potentially impact the social experience (number of encounters) for Forest users. This would alter the current remote, backcountry feel of the area. Suggestions to minimize the number of encounters included dispersing recreation use, rather than concentrating it at specific recreation facilities.

Issue 3: Interaction between Mining and Recreation
Recreation and mining may not be compatible activities in the project area.

Comments described potential conflicts with mining and recreational activity occurring in relative proximity in the Spencer Lake area. Some respondents felt that there was no way to effectively allow the two uses to exist in the same location, while others responded that both uses could potentially be accommodated in the same general area.

Issue 4: Wildlife Impacts

The location of some proposed recreation facilities and encouraging people to use these facilities will negatively impact resident wildlife species and populations.

While the majority of wildlife concerns focused on potential impacts to brown bears, some respondents expressed concern with the effects of project development on all resident wildlife populations. Specifically, concern was expressed that the introduction of more people into the area would ultimately result in a population decline for a variety of wildlife species.

The Alternatives

Based on the preliminary issues, the Interdisciplinary Team developed five alternatives to the proposed action put forth by the Forest Service. Included in the range of alternatives is the "No Action" alternative as required by NEPA (40 CFR 1502.14(d)).

No Action Alternative

The No Action alternative would result in no direct change to the Whistle Stop Project area. The existing location for raft put-in at Spencer Lake and take-out at Luebner Lake as well as the existing road system in the Spencer area will remain unchanged. None of the proposed recreation facilities outlined in the Proposed Action will be constructed.

Proposed Action

The Proposed Action alternative differs only slightly from the information that was put forth in the initial public scoping package. Differences consist of removing the Grandview Boardwalk Trail and viewing platform; the Spencer Overlook Trail is now part of the Glacier Discovery Trail; and the Spencer non-motorized connector trail has been changed from a Class 3 to Class 4 trail. With the Proposed Action, summer recreation use may increase substantially in the project area, both for day and overnight use. There may be a limited increase in winter recreation due to availability of Forest Service public-use cabins located outside of avalanche zones. Development of the proposed recreation facilities will follow Forest Plan direction and meet goals and objectives stated in the Forest Plan.

Alternative 1
Alternative 1 was primarily developed to address the issue of interaction between mining and recreation in the Spencer area. In Alternative 1, all proposed recreation facilities in the Spencer Lake area would be located south of the Spencer Lake outlet (except for the trail section between Luebner Lake and Spencer and the motorized connector road at Spencer). The majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, Bartlett Glacier, Hunter and Trail Creek Whistle Stops.

Alternative 2
Alternative 2 was primarily developed to address the issue of recreation settings (social). In Alternative 2, there would be less construction of recreation facilities throughout the entire project area. Similar to the Proposed Action, the majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, Bartlett Glacier, and Trail Creek Whistle Stops.

Alternative 3
Alternative 3 was primarily developed to address the issue of recreation settings (physical). In Alternative 3, the proposed trail system would be developed (with the exception of the Trail Glacier Trail) and the majority of the additional proposed facilities would not be developed with this alternative. A higher amount of trail miles are still focused in the Spencer Lake area, therefore there is still the potential for higher recreation activity in this geographic area as compared to other sites throughout the project area.

Alternative 4
Alternative 4 was primarily developed to address the issue of wildlife impacts. With this alternative, the focus is on removing the proposed facilities in the Brown Bear Core Management Area Prescription, which would minimize potential impacts to Brown Bears. Alternative 4 would not develop Whistle Stop stations or any recreation facilities throughout the Brown Bear Core Management Area, thereby eliminating project related recreation activity in this geographic area. Similar to the Proposed Action, the majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Luebner Lake and Bartlett Glacier Whistle Stops.

Environmental Consequences
The results of NEPA analysis should clearly contrast the direct, indirect, and cumulative environmental impacts of the proposed action and alternatives. The table below summarizes and compares the six alternatives.

Summary Table 1. Whistle Stop Project FEIS Alternatives

Facilities	No Action	Proposed action	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Whistle Stop Stations						
Luebner Lake	No	Yes	Yes	Yes	Yes	Yes
Spencer Glacier	No	Yes	Yes	Yes	Yes	Yes
Bartlett Glacier	No	Yes	Yes	Yes	Yes	Yes
Grandview	No	Yes	Yes	Yes	Yes	No
Hunter	No	Yes	Yes	No	No	No
Trail Creek	No	Yes	Yes	Yes	No	No
Viewing Platforms						
Luebner Lake	No	2 viewing platforms	1 viewing platform	1 viewing platform	No	2 viewing platforms
Grandview Interpretive Trail	No	1 viewing platform	1 viewing platform	1 viewing platform	No	No
Spencer Lake	No	1 viewing platform	1 viewing platform	1 viewing platform	No	1 viewing platform
Rafting take out locations						
Luebner Lake	1 take-out	1 take-out	1 take-out	1 take-out	No	1 take-out
Trail Creek	No	1 take-out	1 take-out	No	No	No
Rafting put in locations						
Spencer Lake	1 put-in	1 put-in	1 put-in	1 put-in	No	1 put-in
Hunter	No	1 put-in	1 put-in	No	No	No
Information center						
Spencer Lake Info. and Educ. Yurt	No	Yes	Yes	Yes	No	Yes

Facilities	No Action	Proposed action	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Dispersed campsites						
Spencer Glacier Trail	No	12 sites	6 sites	6 sites	0	6 sites
Glacier Discovery Trail	No	24 sites	24 sites	10 sites	0	24 sites
Whistle Stop stations	No	2 sites/station (12 total)	2 sites/station (12 total)	2 sites/station (10 total)	2 sites/station (8 total)	2 sites (6 total)
Cabins						
Spencer Bench	No	Yes	Yes	Yes	No	Yes
Spencer Lake cluster (3 cabins)	No	Yes	Yes	Yes	No	Yes
Bartlett Glacier	No	Yes	Yes	Yes	No	Yes
Trail Glacier	No	Yes	Yes	Yes	No	No
Group campsite						
Spencer Lake	No	1 150-person site	1 25-person site	3 25-person sites	No	1 50-person site

Facilities	No Action	Proposed action	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Trails						
Glacier Discovery Trail:						
Luebner-Spencer Segment (8 mi.)	No	Yes	Yes	Yes	Yes	Yes
Spencer-Bartlett Segment (6 mi.)	No	Yes	Yes	Yes	Yes	Yes
Bartlett-Grandview Segment (4 mi.)	No	Yes	Yes	Yes	Yes	No
Spencer Glacier Trail	No	Yes (North Shore)	Yes (South Shore)	Yes (North Shore)	Yes (North Shore)	Yes (North Shore)
Spencer non-motorized connector Trail	No	Yes	Yes	Yes	Yes	Yes
Bartlett Glacier Trail	No	Yes	Yes	Yes	Yes	Yes
Grandview Interpretive Trail	No	Yes	Yes	Yes	Yes	No
Trail Glacier Trail	No	Yes	Yes	Yes	No	No
Center Creek Pass Trail	No	Yes	Yes	Yes	Yes	Yes

Facilities	No Action	Proposed action	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Trail Class						
Glacier Discovery Trail:						
Luebner-Spencer Segment (8 mi.)	No	Class 3	Class 3	Class 3	Class 3	Class 3
Spencer-Bartlett Segment (6 mi.)	No	Class 3	Class 3	Class 3	Class 3	Class 3
Bartlett-Grandview Segment (4 mi.)	No	Class 3	Class 3	Class 3	Class 3	No
Spencer Glacier Trail	No	Class 4	Class 4	Class 4	Class 4	Class 4
Spencer non-motorized connector Trail	No	Class 4	Class 4	Class 4	Class 4	Class 4
Bartlett Glacier Trail	No	Class 3	Class 3	Class 3	Class 3	Class 3
Grandview Interpretive Trail	No	Class 4	Class 4	Class 4	Class 4	No
Trail Glacier Trail	No	Class 3	Class 3	Class 3	No	No
Center Creek Pass Trail	No	Class 3	Class 2	Class 2	Class 2	Class 2

Facilities	No Action	Proposed action	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Trail Managed Use						
Glacier Discovery Trail:						
Luebner-Spencer Segment (8 mi.)	No	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike
Spencer-Bartlett Segment (6 mi.)	No	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike
Bartlett-Grandview Segment (4 mi.)	No	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike	No
Spencer Glacier Trail	No	Hiker only	Hiker only	Hiker only	Hiker only	Hiker only
Spencer non-motorized connector Trail	No	Hiker only	Hiker only	Hiker only	Hiker only	Hiker only
Bartlett Glacier Trail	No	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike	Hike, Bike
Grandview Interpretive Trail	No	Hiker only	Hiker only	Hiker only	Hiker only	No
Trail Glacier Trail	No	Hike, Bike	Hike, Bike	Hike, Bike	No	No
Center Creek Pass Trail	No	Hiker only	Hiker only	Hiker only	Hiker only	Hiker only
Roads						
Spencer motorized connector	Yes	Yes	Yes	Yes	No	Yes

Reader's Guide

The following provides an overview of the components of this document.

Summary: The summary provides a concise overview of the Final EIS, including the purpose and need, a description of the alternatives, and a comparison of the environmental effects of the proposed action and alternatives.

Table of contents: A table of contents is presented at the beginning of this document.

Chapter 1 – Purpose and Need: This chapter includes the Proposed Action, outlines the purpose and need for the action, summarizes the environmental review process, identifies Forest Service consistency with the Proposed Action, lists public involvement and issues to be considered identified through scoping, and states the decision to be made.

Chapter 2 – Alternatives: This chapter describes the six alternatives analyzed in detail, presents the mitigation requirements that would be in place under any action alternative, and compares the environmental impacts anticipated under each alternative.

Chapter 3 – Affected Environment and Environmental Consequences: This chapter describes information on wildlife, recreation and other resources that would be affected by the alternatives. It is followed by disclosure of the direct, indirect, and cumulative environmental impacts of the Proposed Action and each alternative.

Chapter 4 – Draft Environmental Impact Statement: This chapter describes the public involvement process on the DEIS, summarizes the public comments on the DEIS, and gives the Forest Service's response to these comments.

Chapter 5 – Lists: This chapter identifies a list of FEIS recipients, list of agency preparers, and includes references used in the document.

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Chapter 1: Purpose and Need

Introduction

The Chugach National Forest (CNF), in partnership with the Alaska Railroad Corporation (ARRC), has proposed to develop the Whistle Stop Project, utilizing the ARRC to provide access to backcountry recreation opportunities on National Forest System (NFS) lands on the Kenai Peninsula between Portage and Moose Pass via the Alaska Railroad. The United States Department of Agriculture (USDA) Forest Service has prepared this Final Environmental Impact Statement (FEIS) in accordance with the National Environmental Policy Act (NEPA) to assess and disclose the potential environmental effects of development of railroad supported recreation infrastructure between Portage and Moose Pass. Direct, indirect, and cumulative impacts and any irreversible or irretrievable commitments of resources that would result from the Proposed Action and the alternatives are disclosed in this document. Five alternatives to the proposed action are presented and analyzed.

The objectives for this project are to:

1. Provide additional backcountry access and increase recreation opportunities available to Chugach National Forest visitors.

2. Provide opportunities for visitor information and education.

3. Provide a unique transportation and recreation experience found nowhere else in the United States, while encouraging alternative transportation methods and public safety.

Current conditions

Presently, there is limited recreation activity in the project area due in large part to the absence of recreation facility infrastructure and the closure of ARRC track to public access for safety reasons. Minimal independent use occurs with adventurous backcountry trips, mainly on existing waterways, but also through cross-country travel and air travel. The entire project area is on both sides of the existing Alaska Railroad right of way, which includes the track, bridges, tunnels and various buildings used by the ARRC for infrastructure maintenance. The Alaska Railroad right of way is not available for public access into the Chugach National Forest, except by train, for safety reasons. Past mining activity is also clearly visible, particularly in the Spencer Glacier area. Here, both exposed and manufactured rocks, as well as a small developed road system are present today. In the Spencer area, there are approximately 400 acres of existing mining claims. In addition, the Chugach National Forest has put forth a solicitation of interest for mineral materials in the Spencer Glacier area.

Purpose and Need

The Forest Service seeks to respond to the growing demand for recreation opportunities and recreation-based tourism by enhancing an infrastructure along the rail corridor through a series of interconnected recreation sites that will provide the public with a unique recreation and travel experience not found anywhere else in the United States. Utilizing the existing infrastructure of the Alaska Railroad, the Forest Service Proposed Action aims to create an array of primarily backcountry recreation opportunities for users of the Chugach National Forest. Access would be gained to spectacular ice-capped mountains, glacial lakes, wild rivers and dispersed backcountry campsites, cabins and trails, with transportation provided through Alaska Railroad passenger service.

Completion of this project will allow Chugach National Forest visitors to get out and experience National Forest lands instead of viewing them through the "glass window" that currently exists for the majority of Alaska Railroad passengers traveling through this scenic corridor.

The purpose and need for this project is to:

1. Provide additional backcountry access and increase recreation opportunities available to Chugach National Forest visitors.

National Direction

Goal 3 of the USDA Forest Service Strategic Plan for FY 2004-2008 supports the need for developments such as the Whistle Stop Project. The desired outcome of this goal is to "Provide high-quality outdoor recreational opportunities on forests and grasslands, while sustaining natural resources, to help meet the Nation's recreation demands." The creation of a new network of hiking trails, overnight camping opportunities and interpretive sites, will meet the recreation demand within this portion of the Chugach National Forest and help to disperse users from the heavily used and crowded Seward Highway corridor.

Regional Direction

The Whistle Stop Project directly contributes to the Alaska Region's Strategic Business Plan (v. 2.1). Objective 3(1) states "Improve public access to National Forest System land and water and provide opportunities for outdoor health-enhancing activities." Using the existing rail line will greatly improve access to the Chugach NF, the most unroaded national forest in the country.

Local Direction

Forest Plan direction for the Kenai Peninsula Geographic Area, where the Whistle Stop project is located, states that "during the summer season nonmotorized use will predominate across the area and recreation opportunities will include hiking, camping, mountain biking, fishing, hunting and mountaineering with opportunities for canoeing, rafting and other forms of boating on lakes and rivers…Campgrounds or similar developments (i.e.,

"Whistle Stop") along the Alaska Railroad between Moose Pass and Portage may also be available…(Forest Plan, 3-15)." Furthermore, the Forest Plan details the need to expand recreational capacity by developing new recreational facilities and trails in response to user demands and where appropriate to management area objectives (Forest Plan, 3-8, 3-9).

2. Provide opportunities for visitor information and education.

National, Regional and Local Direction
The USDA Forest Service Strategic Plan for FY 2004-2008 identifies that the fastest-growing projected outdoor recreation activities include sightseeing and visiting historic places. With that in mind, the Chugach NF Forest Plan identifies the need to manage the Kenai Mountains-Turnagain Arm Heritage Area to emphasize the rich cultural heritage of the area through interpretation and education activities. Proper protection and preservation of heritage resources in this historic transportation corridor will provide a window for visitors of today to visit the past history of the area.

Forestwide direction in the Forest Plan states the need to provide recreation opportunities for interpretation and education as related to all Forest resources (Forest Plan, 3-8). The Backcountry and Developed Recreation Complex MAs identify a desired condition that will include "interpretive signs" and that "Historic and prehistoric sites and trails may be stabilized and interpreted as examples of human use of a particular resource or area" (Forest Plan, 4-34 and 4-81).

3. Provide a unique transportation and recreation experience found nowhere else in the United States, while encouraging alternative transportation methods and public safety.

National, Regional and Local Direction
The USDA Forest Service Strategic Plan for FY 2004-2008 states that by mid-century, the U.S. population is projected to increase by nearly 50%, therefore pressure will increase to provide additional recreation opportunities. The Whistle Stop Project meets goal 3 of the Strategic Plan, "Provide outdoor recreation opportunities" by providing the means for a wide range of the general public to access a large, previously difficult to reach portion of the Chugach National Forest. With a limited road system on the Chugach, it is important to develop opportunities that utilize alternative transportation to reach National Forest recreation opportunities. By establishing a partnership with the Alaska Railroad, we will simultaneously encourage alternative transportation and increase recreation opportunities for National Forest visitors.

Implementation of the Whistle Stop project will help achieve direction outlined in the Revised Forest Plan. Forest-wide direction identifies Recreational Opportunities, Access and Facilities as a major area of emphasis to be accomplished through Forest Plan implementation (Forest Plan, 3-1, 3-7 through

3-9). Three goals identified in this section of the Revised Forest Plan will be met with implementation of the Whistle Stop project including:

- maintaining quality settings for non-motorized recreation opportunities;
- providing recreation opportunities for interpretation and education as related to all Forest resources; and
- expanding recreational capacity by developing new recreational facilities and trails in response to user demands and where appropriate to management area objectives (Forest Plan, 3-8, 3-9).

For the Kenai Peninsula Geographic Area, where the Whistle Stop project is located, the Forest Plan directs that

> "during the summer season non-motorized use will predominate across the area. These opportunities will include hiking, camping, mountain biking, fishing, hunting and mountaineering with opportunities for canoeing, rafting and other forms of boating on lakes and rivers…Campgrounds or similar developments (i.e., "Whistle Stop") along the Alaska Railroad between Moose Pass and Portage may also be available' (Forest Plan, 3-15)."

The Proposed Action

The Proposed Action, utilizing approximately 25 miles of Alaska Railroad track between Luebner Lake and Trail Creek aims to provide various facilities capable of meeting the diverse needs of visitors hoping to engage in either a day use or multi-day adventure into a remote area of the Chugach National Forest. As the area currently does not have recreation facilities available, the Proposed Action will facilitate opportunities for an array of recreation opportunities appropriate in a primarily backcountry setting. Whistle Stop service is proposed to be available from approximately mid-May to mid-September, with the majority of facilities available during this time only (the major exception being public-use cabins near the Spencer Glacier Whistle Stop that are not in avalanche terrain and may be used year-round). The Whistle Stop Project will be implemented in phases as funding becomes available. The anticipated sequence of construction is Spencer, Grandview, Luebner, Bartlett, Hunter and Trail Creek. Recreation facilities will not be constructed until the associated station is developed.
The proposed recreation facilities include six developed Whistle Stops and supporting recreation development; a trail system connecting four of the Whistle Stop sites; wildlife/scenic viewing opportunities; and a variety of overnight accommodations, including public-use cabins and dispersed campsites. The majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, Bartlett Glacier, Hunter and Trail Creek Whistle Stops. Following is a complete description of all the elements of the Proposed Action, representing the planned, full-build out of facilities.

Maps for each site and the entire project area are located within Chapter 2 and information on all alternatives considered is available in a tabular form at the end of that chapter. Due to the limited recreation infrastructure proposed at the Hunter and Trail Creek Whistle Stops, these locations are identified on the Project Overview map only, and not included in the more detailed maps displaying recreation infrastructure on the north and south ends of the project area. The following recreation infrastructure is proposed at each Whistle Stop station:

Spencer Glacier Whistle Stop

The Spencer Glacier site is the "flag ship" of the entire proposal due to its exceptional scenic qualities and relative closeness to Anchorage. Consequently, Spencer Glacier is expected to be a popular destination. Spencer Lake and Glacier provide unique opportunities for viewing spectacular scenery. Given the terrain and vegetation, this area is capable of providing a variety of recreation opportunities and of supporting a larger number of people at one time compared to the other Whistle Stops.

The Spencer Glacier Whistle Stop includes the following facilities/developments:

- One fully accessible Whistle Stop station with a waiting shelter, vault toilet and information kiosk
- Two fully accessible dispersed, hardened campsites within 1 mile of the Whistle Stop station
- A fully accessible designated area on the shore of Spencer Lake for viewing scenery/wildlife (platform or hardened site)
- An area for commercial rafting operations and the general public to stage float trip departures
- A dispersed group-use area between the railroad and the lake for larger groups (up to 150 people)
- A fully accessible trail from the station to the viewing platform (approximately 1 mile) and lake shore
- A motorized route between the station and the outfitter/guide staging area (approximately 1 mile)
- A fully accessible trail from the lake shore to the Spencer Glacier (approximately 1 mile) referred to as the Spencer Glacier Trail
- A trail connecting to the proposed Hut-to-Hut trail system (being analyzed in a separate Environmental Impact Statement) referred to as the Center Creek Pass Trail (approximately 5 miles)
- Along the Spencer Glacier Trail, approximately 12 walk-in dispersed camping sites
- A public-use cabin located on a short spur trail off the Glacier Discovery Trail (described later) at the top of Spencer Bench
- South of the Whistle Stop site, up to 3 recreation cabins, clustered
- An agency information and education yurt

Luebner Lake Whistle Stop
Luebner Lake is the northern most Whistle Stop in the system. This site serves primarily as the take-out point for raft trips beginning at Spencer Lake. Additionally, there are excellent opportunities for viewing wildlife and fishing. Luebner Lake is also the northern end of the Glacier Discovery Trail.

The Luebner Lake Whistle Stop includes the following facilities/developments:

- One fully accessible Whistle Stop station with a waiting shelter, vault toilet and kiosk
- Two dispersed, hardened campsites within 1 mile of the Whistle Stop station
- Approx. 1500 feet of accessible elevated boardwalk from the station to the edge of Luebner lake and 2 viewing platforms (Glacier Discovery Trail will connect to this boardwalk)
- An area for commercial rafting operations and the general public to take-out from the Placer River

Bartlett Glacier Whistle Stop
Bartlett Glacier is a natural mid-point between the stops of Spencer and Grandview and provides visitors with the shortest hike to a glacier along the entire route. Additionally, this Whistle Stop provides an ideal rest location along the Glacier Discovery Trail between Spencer and Grandview.

The Bartlett Glacier Whistle Stop includes the following facilities/developments:

- One fully accessible Whistle Stop station with a waiting shelter, vault toilet and information kiosk
- Two dispersed, hardened campsites within 1 mile of the Whistle Stop station
- A trail connecting the Whistle Stop station to the base of Bartlett Glacier (approximately 1 mile) referred to as the Bartlett Glacier Trail
- A public-use cabin located on a short spur trail off the Bartlett Glacier Trail

Grandview Whistle Stop
As the elevational high point of this rail route, the Grandview area provides excellent opportunities for scenic views of the surrounding valleys, mountains and glaciers. This stop serves as the southern terminus of the Glacier Discovery Trail and provides opportunities for both day and overnight use. The Grandview Whistle Stop is bordered by 320 acres of State of Alaska Department of Natural Resources Land to the north, south, east and west. Facilities proposed here may require appropriate authorization from the State of Alaska Department of Natural Resources, depending on final location.

The Grandview Whistle Stop includes the following facilities/developments:

- One fully accessible Whistle Stop station with a waiting shelter, vault toilet and information kiosk
- Two dispersed, hardened campsites within 1 mile of the Whistle Stop station
- A highly developed trail (approximately 1 mile) with an associated viewing platform referred to as the Grandview Interpretive Trail
- A trail connecting the Whistle Stop to the base of Trail Glacier (approximately 4 miles) referred to as the Trail Glacier Trail
- A public-use cabin located on a short spur trail off the Trail Glacier Trail

Hunter Whistle Stop

Hunter serves primarily to provide wild and remote rafting opportunities for commercial and private users to float Trail Creek.

The Hunter Whistle Stop includes the following facilities/developments:

- One fully accessible Whistle Stop station with a waiting shelter, vault toilet and information kiosk
- Two dispersed, hardened campsites within 1 mile of the Whistle Stop station
- An area for commercial rafting operations and the general public to stage float trip departures

Trail Creek Whistle Stop

Trail Creek is the southern terminus of the project area and serves as a take-out location for commercial and private users floating Trail Creek. Additionally, this location would provide users with a connection to backpacking opportunities on the Iditarod National Historic Trail.

The Trail Creek Whistle Stop includes the following facilities/developments:

- One fully accessible Whistle Stop station with a waiting shelter, vault toilet and information kiosk
- Two dispersed, hardened campsites within 1 mile of the Whistle Stop station
- An area for commercial rafting operations and the general public to take-out from Trail Creek

Glacier Discovery Trail

The Glacier Discovery Trail would be the connection that links the Whistle Stops at Luebner Lake, Spencer Glacier, Bartlett Glacier and Grandview. This trail system would allow visitors the opportunity to conduct both short day hikes between Whistle Stop stations and overnight hikes, beginning at one station and getting picked up at a later time at a different location.

The Glacier Discovery Trail includes the following facilities/developments:

- A trail following the Placer River Valley, stretching approximately 18 miles and connecting the Whistle Stops at Luebner Lake, Spencer Glacier, Bartlett Glacier and Grandview
- Constructed to Trail Class 3 standards, with an obvious and continuous trail tread
- Twenty-four hardened, dispersed campsites developed along the trail system

Train service

The Forest Service and Alaska Railroad have identified the potential to conduct four daily round-trips between mid-May and mid-September, adding to the existing train activity in the project area (for a more detailed explanation of current train service, see Chapter 3). Each round trip (i.e., Portage to Trail Creek and back), taking approximately 4 hours to complete, will potentially stop at a different combination of Whistle Stops each trip.

Forest Plan Consistency

The *Revised Land and Resource Management Plan for the Chugach National Forest* (Revised Forest Plan) (USDA – Forest Service 2002a), *Final EIS* (USDA – Forest Service 2002b), and *Record of Decision* (USDA – Forest Service 2002c) were approved on May 31, 2002. This FEIS is tiered to these documents.

This Environmental Impact Statement and Record of Decision will define the size and shape of the Developed Recreation Complex Management Area that was identified in the Forest Plan. Once these boundaries are defined, there will be a change to the acreage of the Backcountry Management Area and it will be updated on the Forest Map.

A review of the proposed action and the Revised Forest Plan shows that all the activities proposed are consistent with the Forest Plan and that no amendment will be required.

Public Involvement and Issues to be Considered

NEPA requires that the public and other agencies be involved in federal agency decision-making. An important part of this process is scoping. CEQ regulations refer to scoping as a process to determine the scope of the issues to be addressed in an EIS and to identify the significant issues related to a Proposed Action (40 CFR 1501.7). The major steps in the process for this EIS included:

- The project was listed in the Chugach National Forest Schedule of Proposed Actions (SOPA) beginning in April 2005. The SOPA can be found on the Chugach National Forest web site (www.fs.fed.us/r10/chugach) and is updated quarterly.

- A Notice of Intent to prepare an EIS was published in the Federal Register on May 16, 2005 (Volume 70, Number 93).

- Six public meetings were held in Anchorage, Seward, Girdwood, Moose Pass, Cooper Landing and Soldotna, between May 23 and June 1, 2005.

- A notice describing the proposal, outlining the NEPA review process, and inviting comment was distributed to media outlets, agencies, groups, and individuals beginning on May 16, 2005. During the 30-day scoping period, 12 comments were received. Three additional comments were received after the 30-day scoping period had expired.

- A Draft EIS was released to the public on January 27, 2006. During the scoping period, 20 letters were received.

As a result of the scoping process, four issues were identified. These issues guided the analysis documented in this FEIS and are summarized below.

Issue 1: Recreation settings (physical)
Recreation facility development has the potential to negatively impact the backcountry environment of the project area.

Concern was expressed regarding the level of recreation facility development proposed in the project area. Respondents noted that with development of the proposed level of recreation facilities, the area would not maintain the backcountry environment that is being promoted. Suggestions to minimize the impact of facility development included reducing the number of or eliminating facilities such as cabins, individual and group campsites, and viewing platforms.

To contrast the Proposed Action and alternatives based on this issue, our analysis focuses on the number and type of recreation facilities that would be developed in the project area. The following units of measure will be used in our effects analysis:

Number of:
- Whistle Stop stations
- Public-use cabins
- Dispersed, hardened campsites
- Viewing platforms
- Rafting put-in/take-out locations
- Group campsites
- Trail miles
- Information and education yurt (yes/no)

Issue 2: Recreation settings (social)
Increased visitation to the project area will raise the number of encounters and alter the backcountry feel of the area.

Concerns indicated that with enhanced transportation to multiple sites in the project area, visitation would increase and potentially impact the social experience (number of encounters) for Forest users. This would alter the current remote, backcountry feel of the area. Suggestions to minimize the number of encounters included dispersing recreation use, rather than concentrating it at specific recreation facilities.

To contrast the Proposed Action and alternatives based on this issue, our effects analysis focuses on changes in the social experience of the alternatives beyond existing conditions. Specifically, analysis will detail the number and type of recreation facilities that would be developed in the project area and how different combinations of recreation facilities have the potential to introduce different numbers of users (and hence, encounters) into certain geographical locations.

Issue 3: Interaction between Mining and Recreation
Recreation and mining may not be compatible activities in the project area.

Comments described potential conflicts with mining and recreational activity occurring in relative proximity in the Spencer Lake area. Some respondents felt that there was no way to effectively allow the two uses to exist in the same location, while others responded that both uses could potentially be accommodated in the same general area.

To contrast the Proposed Action and alternatives based on this issue, our effects analysis focuses on the impacts of mining activity on the recreational experience. In particular the following topics will be analyzed:

- Impact of noise related to mining activity in the area
- Visual impact of mining related activity in the area

Issue 4: Wildlife Impacts
The location of some proposed recreation facilities and encouraging people to use these facilities will negatively impact resident wildlife species and populations.

While the majority of wildlife concerns focused on potential impacts to brown bears, some respondents expressed concern with the effects of project development on all resident wildlife populations. Specifically, concern was expressed that the introduction of more people into the area would ultimately result in a population decline for a variety of wildlife species.

To contrast the Proposed Action and alternatives based on this issue, our effects analysis focuses on the number and type of recreation facilities that would be developed in the project area and depending on final design and location, how these recreation facilities may affect wildlife populations. Analysis will focus on:

- impacts to Forest Service Region 10 sensitive species (Trumpeter Swan, osprey)
- impacts to Forest Service management indicator species (brown bear, moose, mountain goat)
- species of special interest (bald eagle, Canada Lynx, gray wolf, northern goshawk, marbled murrelet, river otter, wolverine; and
- other species of concern (Dall's sheep, migratory birds).

Decision to be made

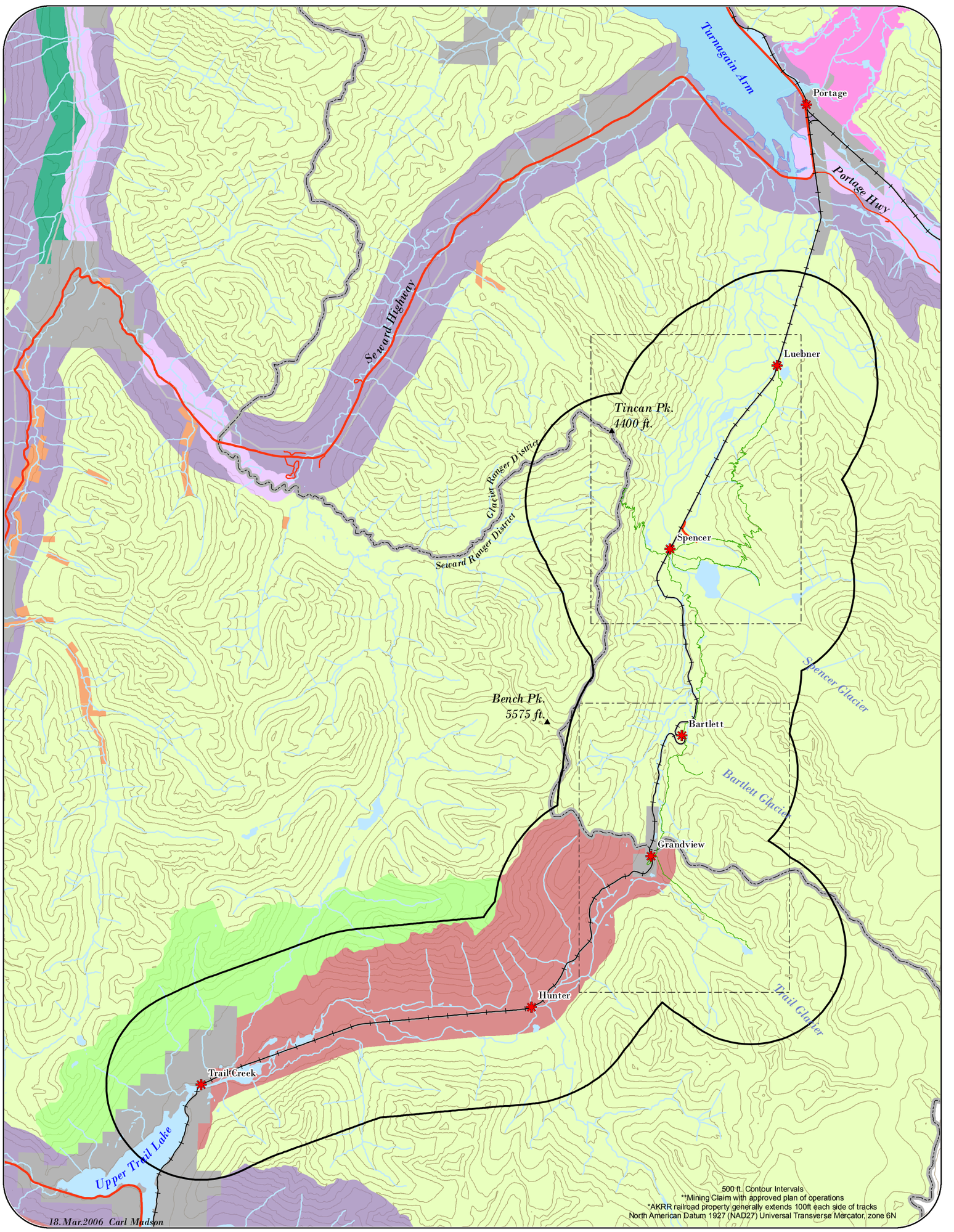
Based on the environmental analysis in the Final Environmental Impact Statement (FEIS) for the Whistle Stop Project, the Forest Supervisor of the Chugach National Forest will make the following decisions:

- Whether to select the proposed Whistle Stop development as proposed or modified, or as described in an alternative, including the no-action alternative;
- What mitigation measures are needed; and
- What monitoring is required.

Planning Record

This EIS takes advantage of existing information included in the Chugach National Forest Land and Resource Management Plan (USDA-Forest Service 2002), applicable resource specific research, project-specific reports and other sources as indicated. Where applicable, such information is briefly summarized and referenced to avoid duplication. The planning record for this analysis documents all project-specific information, including resource reports. The planning record also contains information resulting from public involvement. The planning record is located at the Glacier Ranger District in Girdwood, Alaska, and is available for review during regular business hours. Information from the record is available on request.

Whistle Stop Project Overview



Miles
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LEGEND

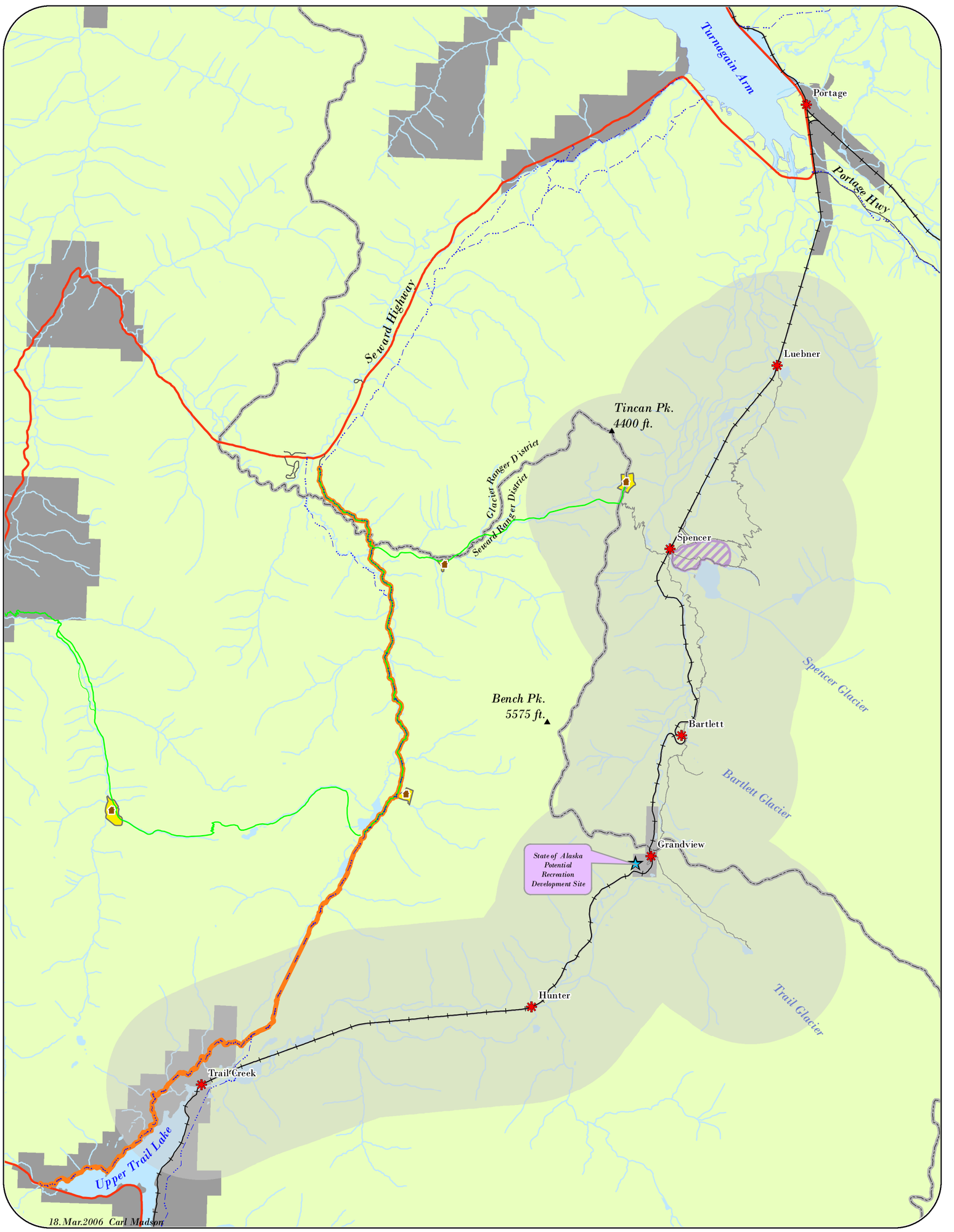
- Whistle Stop
- Proposed Trail
- Existing Road
- Railroad*
- District Boundary
- Project Boundary

MANAGEMENT PRESCRIPTION

- Fish, Wildlife & Recreation
- Forest Restoration
- Recreation River
- Mining Claim**
- Non-National Forest
- Transportation/Utility Corridor
- Backcountry
- Scenic River
- Brown Bear Core
- Fish & Wildlife Conservation

For more information see:
USGS Quadrangle Seward, AK: C6, D6

Whistle Stop Project Area
Existing Conditions &
Reasonably Foreseeable Actions



Miles

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LEGEND

- Whistle Stop
- Proposed Trail
- Existing Road
- Project Boundary
- Railroad*
- District Boundary
- Non-National Forest
- Johnson Pass Trail
- Minerals Extraction Area**
- Iditarod Trail - Summer
- Hut to Hut Trail
- Hut to Hut Resource Protection Area
- Hut to Hut Lodging

Red text indicates a reasonably foreseeable action

*AKRR railroad property generally extends 100ft each side of tracks
**Minerals extraction area includes existing use and reasonably foreseeable actions
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

N

For more information see:
USGS Quadrangle Seward, AK: C6, D6

Chapter 2: Alternatives

Introduction

This chapter describes how alternatives were developed and the alternatives studied in detail. Additionally, it presents mitigation requirements that would be in place under any action alternative.

Alternative Development

Based on the issues identified through scoping and Interdisciplinary Team analysis, six alternatives were developed. There are four action alternatives to the proposed action that was presented to the public during the initial public scoping period. Also, included in the range of alternatives is the "No Action" alternative as required by NEPA (40 CFR 1502.14(d)). Alternative 2 has been identified as the preferred alternative as this alternative addresses the issues of recreation settings (both social and physical) and impacts to wildlife.

The table beginning on page vi of the summary section provides a specific tabular display and summary of the recreation development for each alternative and presents a reference for the geographic location of proposed facility development.

Phase-in approach to Project Development

The Whistle Stop Project will be implemented in phases as funding becomes available. The anticipated sequence of construction is Spencer, Grandview, Luebner, Bartlett, Hunter and Trail Creek. Due to safety concerns associated with people walking on the tracks, trains will not drop people off at a trail stop until the necessary associated infrastructure (Whistle Stop station, trails cabins, etc.) has been constructed. Trails, cabins and dispersed campsites along trails will not be constructed until the associated station is developed.

The Alternatives

No Action Alternative

The No Action alternative does not propose any development in the project area. This would result in no direct change to the Whistle Stop Project area and would represent the existing condition of recreation management in the project area. The existing location for rafting put-in at Spencer Lake and take-out at Luebner Lake as well as the existing road system in the Spencer area will remain unchanged. None of the recreation facilities outlined in the Proposed Action will be constructed.

Proposed Action

Alternative Design. The Proposed Action alternative was primarily developed to address the need for additional backcountry access and increase recreation opportunities in the Kenai Peninsula Geographic Area of the Chugach National Forest.

Alternative Description. The Proposed Action would construct six Whistle Stops and associated developments. Proposed recreation facilities will make possible a variety of backcountry recreation activities and opportunities such as hiking, overnight camping and viewing wildlife. The majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, Bartlett Glacier, Hunter and Trail Creek Whistle Stops.

The following facilities will be constructed:

- 6 Whistle Stop stations;
- 31.5 miles of trail;
- 48 dispersed, hardened backcountry campsites;
- 6 public-use cabins;
- 4 wildlife/viewing platforms;
- 2 rafting put-in locations;
- 2 rafting take-out locations;
- an agency information and education yurt;
- a group campsite (one 150-person capacity site);
- the motorized connector road in Spencer will continue to be used

Details identifying the locations for each of these facilities can be found on the table beginning on page vi of the Summary section and the maps located at the end of this chapter.

Alternative 1

Alternative Design. Alternative 1 was primarily developed to address the issue of interaction between mining and recreation in the Spencer area. The design of this alternative addresses this issue by locating all proposed facilities in the Spencer area south of the Spencer Lake outlet, which would minimize the interaction between the two uses. Additionally, the issue of recreation settings (social) is addressed through a reduction in the size of the group campsite and reduction in the number of dispersed, hardened campsites in the Spencer area.

Alternative Description. Alternative 1 would construct six Whistle Stops and associated developments. The majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with

less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, Bartlett Glacier, Hunter and Trail Creek Whistle Stops.
The following facilities will be constructed:

- 6 Whistle Stop stations;
- 31.5 miles of trail;
- 42 dispersed, hardened backcountry campsites;
- 6 public-use cabins;
- 3 wildlife/viewing platforms;
- 2 rafting put-in locations;
- 2 rafting take-out locations;
- an agency information and education yurt;
- a group campsite (one 25-person capacity site);
- the motorized connector road in Spencer will continue to be used

Details identifying the locations for each of these facilities can be found on the table beginning on page vi of the Summary section and the maps located at the end of this chapter.

Alternative 2

Alternative design. Alternative 2 was primarily developed to address the issue of recreation settings (social). The design of this alternative addresses this issue and aims to minimize encounters through the ability to distribute use among five Whistle Stop stations; through a decrease in the size of the group campsite; and through the decrease in hardened, dispersed sites throughout the project area. Additionally, the issue of wildlife impacts is addressed through elimination of the Hunter Whistle Stop and rafting facilities at both Hunter and Trail Creek.

Alternative description. Alternative 2 would construct five Whistle Stops and associated developments. With this alternative, there would be less construction of recreation facilities than in the Proposed Action. Similar to the Proposed Action, the majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, Bartlett Glacier, and Trail Creek Whistle Stops.

The following facilities will be constructed:

- 5 Whistle Stop stations;
- 31.5 miles of trail;
- 26 dispersed, hardened backcountry campsites;
- 6 public-use cabins;
- 3 wildlife/viewing platforms;
- 1 rafting put-in location;
- 1 rafting take-out location;
- an agency information and education yurt;

- a group campsite (three 25-person sites);
- the motorized connector road in Spencer will continue to be used

Details identifying the locations for each of these facilities can be found on the table beginning on page vi of the Summary section and the maps located at the end of this chapter.

Alternative 3

Alternative design. Alternative 3 was primarily developed to address the issue of recreation settings (physical). The design of this alternative addresses this issue through the elimination of the majority of all recreation facilities including the group campsite, and all public-use cabins, wildlife/viewing platforms, and dispersed, hardened campsites along the trail system. This alternative also addresses the issue of wildlife impacts through elimination of many facilities in the Brown Bear Core Management Area, including the Hunter and Trail Creek Whistle Stops, and Trail Glacier Trail and associated public-use cabin.

Alternative description. Alternative 3 would construct four Whistle Stops and associated developments. The majority of recreation facility development and potential recreation activity is focused in the Spencer Lake area, with less facility construction and corresponding recreation activity at the Grandview, Luebner Lake, and Bartlett Glacier Whistle Stops.

The following facilities will be constructed:

- 4 Whistle Stop stations;
- 27.5 miles of trail;
- 8 dispersed, hardened backcountry campsites

Details identifying the locations for each of these facilities can be found on the table beginning on page vi of the Summary section and the maps located at the end of this chapter.

Alternative 4

Alternative design. Alternative 4 was primarily developed to address the issue of wildlife impacts. The design and focus of this alternative addresses this issue through the elimination of all facilities located within or directly adjacent to the Brown Bear Core Management Area: the Whistle Stops at Grandview, Hunter and Trail Creek; elimination of rafting facilities at Hunter and Trail Creek; and the Trail Glacier Trail and associated cabin. Additionally, the issue of recreation settings (social) is addressed through a reduction in the capacity of the group campsite.

Alternative description. Alternative 4 would construct three Whistle Stops and associated developments. Similar to the Proposed Action, the majority of recreation facility development and potential recreation activity is focused at the Spencer Glacier Whistle Stop, with less facility construction and corresponding recreation activity at the Luebner Lake and Bartlett Glacier Whistle Stops.

The following facilities will be constructed:

- 3 Whistle Stop stations;
- 22.5 miles of trail;
- 36 dispersed, hardened backcountry campsites;
- 5 public-use cabins;
- 3 wildlife/viewing platforms;
- 1 rafting put-in location;
- 1 rafting take-out location;
- an agency information and education yurt;
- a group campsite (1 50-person capacity site);
- the motorized connector road in Spencer will continue to be used

Details identifying the locations for each of these facilities can be found on the table beginning on page vi of the Summary section and the maps located at the end of this chapter.

Mitigation Common to all Alternatives

The following mitigation measures will be applied to the Whistle Stop Project:

Recreation/Special Uses

1. Recreation Facilities Planning (BMP 16.1, USDA Forest Service, Alaska Region, 1996; *available at* http://fsweb.r10.fs.fed.us/directives/fsh/2509.22/) will be followed through appropriate planning, design and location of recreational facilities.

2. Trail Construction and Maintenance (BMP 16.4, USDA Forest Service, Alaska Region, 1996) will be followed to minimize soil erosion and water quality problems originating from trails and their drainage structures.

3. Outfitter/guide allocation will be monitored so that the percentage of use assigned to this user group will not exceed stated Forest Plan standards for use levels.

4. Signs and maps will be posted at the Spencer Whistle Stop station detailing area mining activity and explaining the need to respect private property and equipment. Additionally, if it is determined that there are other access points to mining activity, these locations will be properly signed to prohibit trespass onto active mining claim areas.

Hydrology

1. To protect water resources, channel morphology, and water quality, bridges will be constructed with clearance over the elevation of the 100-year flood level, and the use of regional Best Management Practices for trail construction and maintenance (USDA Forest Service, Alaska Region, 1996).

Soils

1. Mitigation measures to protect soil resources will be followed and can be found in the Revised Plan (2002, Revised Land and Resource Management Plan, Chugach National Forest, Alaska Region, R10-MB-480c) Standards and Guidelines for minimizing disturbance and loss in soil productivity described on page 3-22.

Wildlife

1. If a Bald Eagle or Goshawk nest is identified during construction a Forest Service Biologist will be notified and mitigation actions identified and implemented.

2. If active Trumpeter Swan nests are located during construction a Forest Service Biologist will be notified and activities associated with this project will maintain ½ mile buffer from the identified swan nests.

Design Features Common to All Alternatives

3. All Whistle Stop stations will comply with standard garbage policies/regulations designed to minimize attracting and/or habituating bears to human foods or waste. They will have a bear-proof food storage container(s) and bear-proof garbage container(s). Furthermore all backcountry access points will provide signage that emphasizes bear awareness including key aspects related to proper behavior during a bear encounter and proper storage and transportation of bear attractants (e.g., food and garbage). Forest wildlife biologists and recreation specialists will develop a plan on making available individual food storage containers for use at backcountry recreation sites (i.e., dispersed, hardened campsites).

4. All trail and facility construction associated with this project will be geared towards enhancing visibility and will be incorporated into the final design layout to reduce human-bear interactions.

5. Trail heads and access points associated with this project will be signed to help ensure safety between bears and the public.

Additional Design Features for Facilities within the Brown Bear Core Management Area (Forest Service Plan Standards and Guidelines pp. 4-57, 4-58)

6. All access points into the Brown Bear Core Area Management Area (BBCMA) will provide signage that emphasizes bear awareness and bear safety along with a specific explanation of the BBCMA and why it is important to maintain a healthy population of brown bears on the Kenai Peninsula.

7. In all alternatives that include the Trail Glacier Trail and cabin, access may be subject to specific closures as needed to minimize bear-human interactions.

8. A Forest Service wildlife biologist will be consulted on the placement of hardened, dispersed campsites within and adjacent to ½ mile of the BBCMA. In all alternatives that include the Hunter Whistle Stop, campers within this zone will be restricted to use of these sites only.

Vegetation

Mitigation measures have been adapted from the Chugach Invasive Plant Plan (2005).

1. Prior to entering National Forest land, agency personnel, permittees, and contractors will be required to clean the equipment they intend to use. Similarly, when working on trails, the cleaning of tools and equipment between work sites along the trail will help prevent transport of invasive plant seed and vegetative reproductive structures further along the trail.

Design Features Common to All Alternatives

2. For all projects involving revegetation, natural revegetation will be used where seed source and site conditions are favorable, and native plant species will be used in revegetation/restoration projects when natural revegetation conditions are not favorable (Forest Plan page 3-25). Preference will be given to plant materials from the local environment of the project area to maximize adaptation to that environment and maintain local genetic composition.

3. All hay, straw, or mulch used on for the project will be free of invasive plant species. This includes materials used for mulching, erosion control, rehabilitation, or other uses, by agency personnel, permittees, or contractors. Where applicable, and if invasive plant free material is available, include this specification as a contract or permit requirement.

4. In areas where future ground disturbing activities are scheduled to occur within invasive plant infestations, appropriate invasive plant treatment applications will be conducted prior to project implementation to reduce future spread and establishment. Ground disturbing activities will be timed to minimize the potential of providing favorable seed beds when invasive plant species have developed mature seeds.

5. When building trails, the trails specialist and project botanist will meet to develop the minimum trail tread necessary to ensure the maintenance of native grasses and forbs in close proximity to the tread and to help prevent invasive plant establishment. When drainage work along trails is needed, care will be used to maintain the root structure of the native plants present. When brushing the trail edge, vegetation will be left at least 10 inches tall which will usually allow more native species to persist, prosper, and perhaps out-compete invasive species. In addition, we will maintain dead organic matter on the surface, rather than remove it, since such mulch can reduce the establishment and growth of invasive plants.

The following are mitigation measures related to sensitive species.

1. Surveys will be completed throughout the project area for all sensitive plants. If any are found, recreation facilities will be relocated.

2. Add interpretive signs to alert visitors of the presence of rare plants. Place emphasis on staying on developed trails to reduce impacts from cross-country travel.

3. Identification of the exact location of the cabin on the Spencer Overlook Trail (part of the Glacier Discovery Trail) should be coordinated with the Forest or District Ecologist.

4. Monitor population for potential impacts after implementation of the project. Monitoring should be conducted periodically to see if increased human activity is impacting the population.

5. If any previously undiscovered sensitive plants are encountered at any time prior to or during implementation of this project, protect the population and avoid any disturbance in the area containing the population (and similar habitats in that vicinity). The district or forest botanist/ecologist should be notified immediately to evaluate the population and recommend avoidance or mitigation measures.

Fisheries

1. Best Management Practices as described in the Soil and Water Conservation Handbook - FSH 2509.22 (USDA Forest Service, Alaska Region,1996) and the Aquatic Habitat Management Handbook - FSH 2090.21 (USDA Forest Service, Alaska Region, 2001) and consultation with hydrologists and aquatic biologists will occur to minimize the impacts of trail building and stream crossing on the fisheries resources.

2. Any in-stream work will be accomplished during the window of opportunity established in the Memorandum of Understanding between the State of Alaska and the Forest Service. Currently, instream work is allowed between May 15 and July 15 of each year.

3. If a trail or viewing platform crosses a Class I stream (streams containing anadromous fish) or Class II stream (streams containing only resident, nonanadromous fish) or wetland, a bridge or elevated boardwalk will be used to better maintain natural stream processes and avoid fish passage problems that can be commonly associated with culverts.

4. Damage along riparian areas as a result of trail building, human use, and excessive trampling will be monitored and corrected in a timely and effective manner.

5. Hydrologists, biologists, and engineers will work closely to develop effective stream crossings near Luebner Lake and its tributaries that avoid impacts to the fisheries resource and aquatic habitat and will design monitoring plans that will assure continued unidirectional movement.

Heritage

1. A heritage resource specialist will monitor all project activities occurring within 100 feet of a known cultural site.

2. If any previously undiscovered heritage artifacts or sites are located during project implementation, the artifacts and sites are not to be disturbed. Work will stop and the project archeologist immediately notified. A heritage specialist will evaluate the discovery within 24 hours, consult with appropriate parties and recommend avoidance or mitigation measures in accordance with the Region 10 and Whistle Stop Programmatic Agreements.

3. Post monitoring of project construction activities and mitigation measures will occur in accordance with the Region 10 Programmatic Agreement.

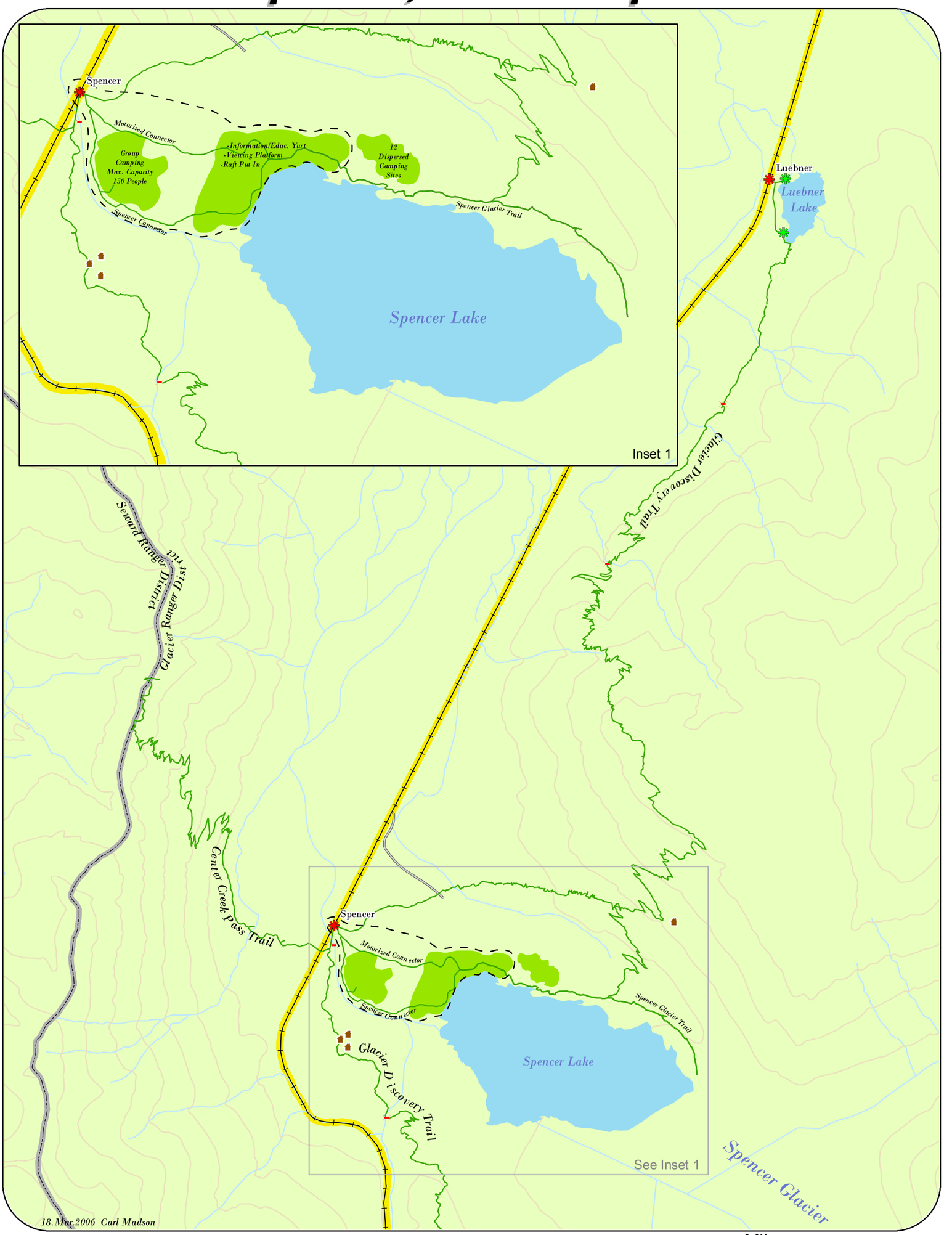
4. Site-specific mitigation will adhere to the *Programmatic Agreement Between the Chugach National Forest and the Alaska State Historic Preservation Officer Regarding Implementation of the Whistle Stop Project and Associated Historic Properties*.

5. All design work for building new facilities will reflect the Whistle Stop Project Design Plan and the Secretary of the Interior's Standards and Guidelines. The design plans will be consulted on with the State Historic Preservation Office (SHPO).

6. A project monitoring plan, designed to report any impacts and recommend a management action plan to address protection measures will be created by the Heritage Specialist prior to phase implementation. Project monitoring of historic properties will require a minimum of 20% of the historic properties to be monitored per year. Historic properties will be monitored based on priority outlined in the project monitoring plan. Damage to historic properties will be reported to the SHPO.

7. Any work to be completed within heritage site boundaries will not occur without approval of the project archeologist. This will include brushing, slash pile placement, use of mechanized equipment and staging within the designated historic site boundaries.

Whistle Stop
Proposed Action
Luebner to Spencer, North Half



Miles
0 0.5 1 2 3

LEGEND

- Whistle Stop
- Viewing Platform
- Proposed Trail
- Existing Road
- Proposed Bridge
- Railroad*
- Proposed Cabin Site
- District Boundary
- Proposed Developed Recreation Complex Boundary

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

For more information see:
USGS Quadrangle Seward, AK: C6, D6

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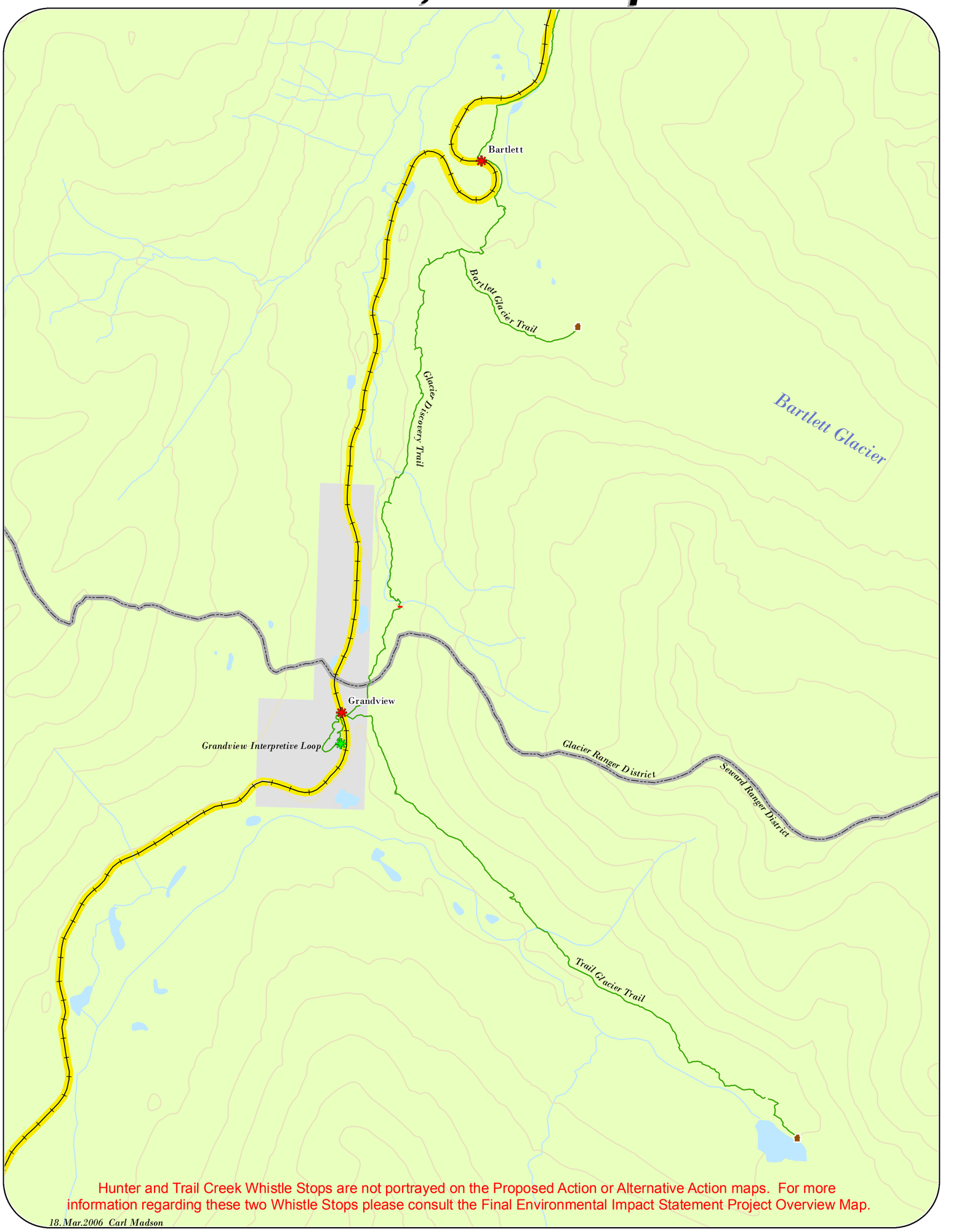
Whistle Stop
Proposed Action
Bartlett to Grandview, South Half



Hunter and Trail Creek Whistle Stops are not portrayed on the Proposed Action or Alternative Action maps. For more information regarding these two Whistle Stops please consult the Final Environmental Impact Statement Project Overview Map.

18.Mar.2006 Carl Madson

0 0.25 0.5 1 1.5 Miles

LEGEND

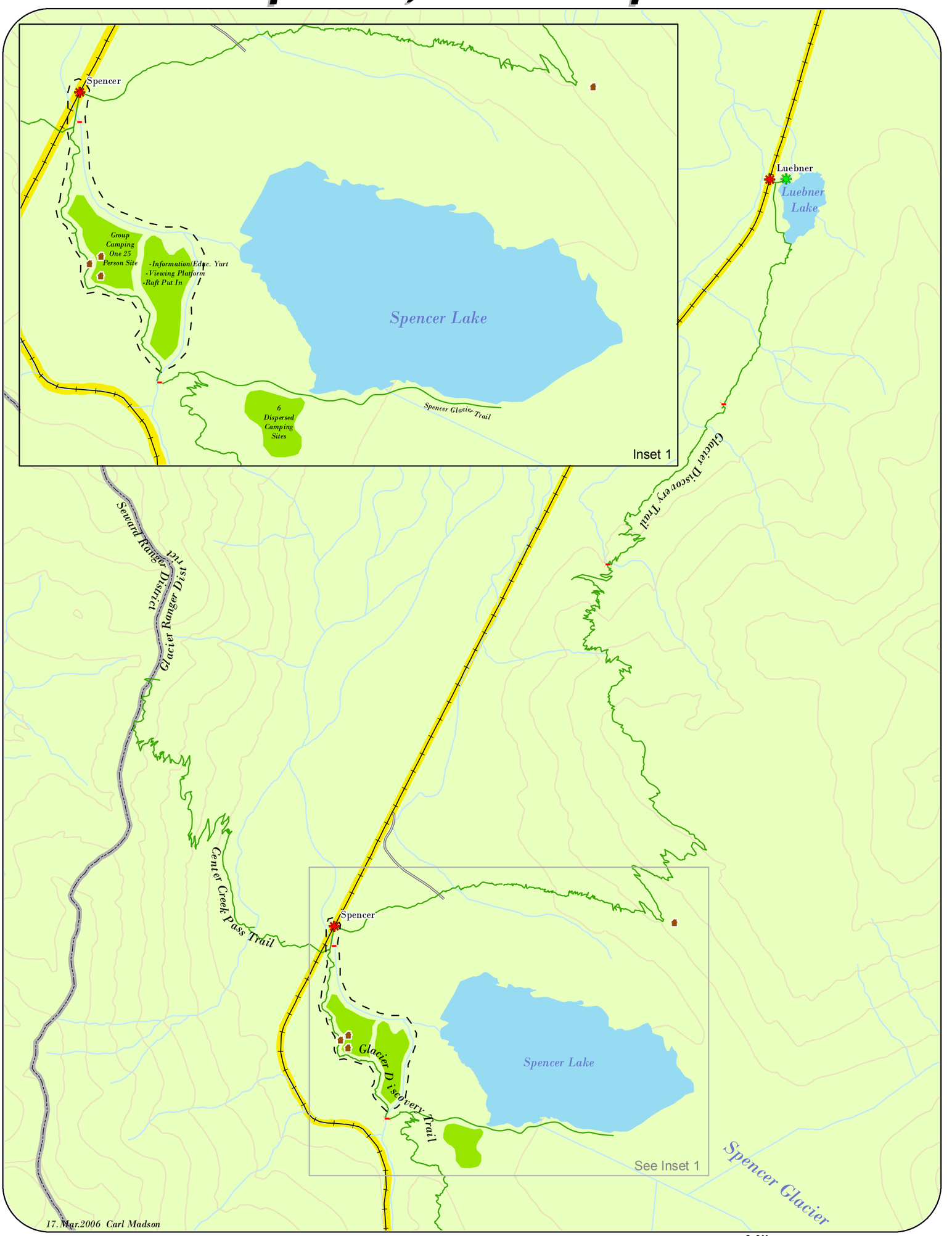
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Non National Forest
- Proposed Bridge
- Railroad*
- District Boundary
- Proposed Cabin Site

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

N

For more information see:
USGS Quadrangle Seward, AK: C6

Whistle Stop
Alternative 1
Luebner to Spencer, North Half



Miles
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LEGEND

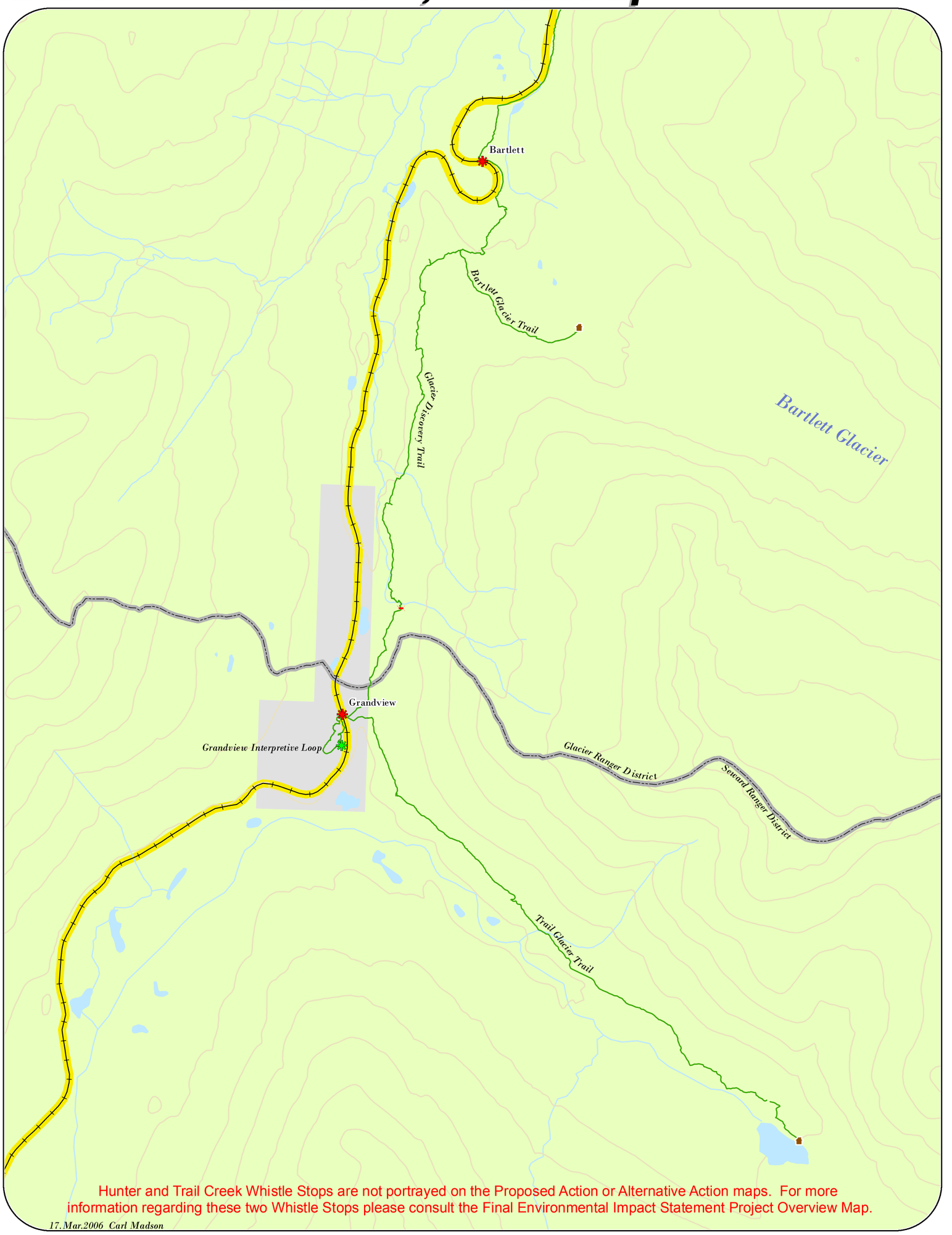
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Existing Road
- Proposed Bridge
- Railroad*
- Proposed Cabin Site
- District Boundary
- Proposed Developed Recreation Complex Boundary

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

For more information see:
USGS Quadrangle Seward, AK: C6, D6

N

Whistle Stop
Alternative 1
Bartlett to Grandview, South Half



Hunter and Trail Creek Whistle Stops are not portrayed on the Proposed Action or Alternative Action maps. For more information regarding these two Whistle Stops please consult the Final Environmental Impact Statement Project Overview Map.

17.Mar.2006 Carl Madson

0 0.25 0.5 1 1.5 Miles

LEGEND

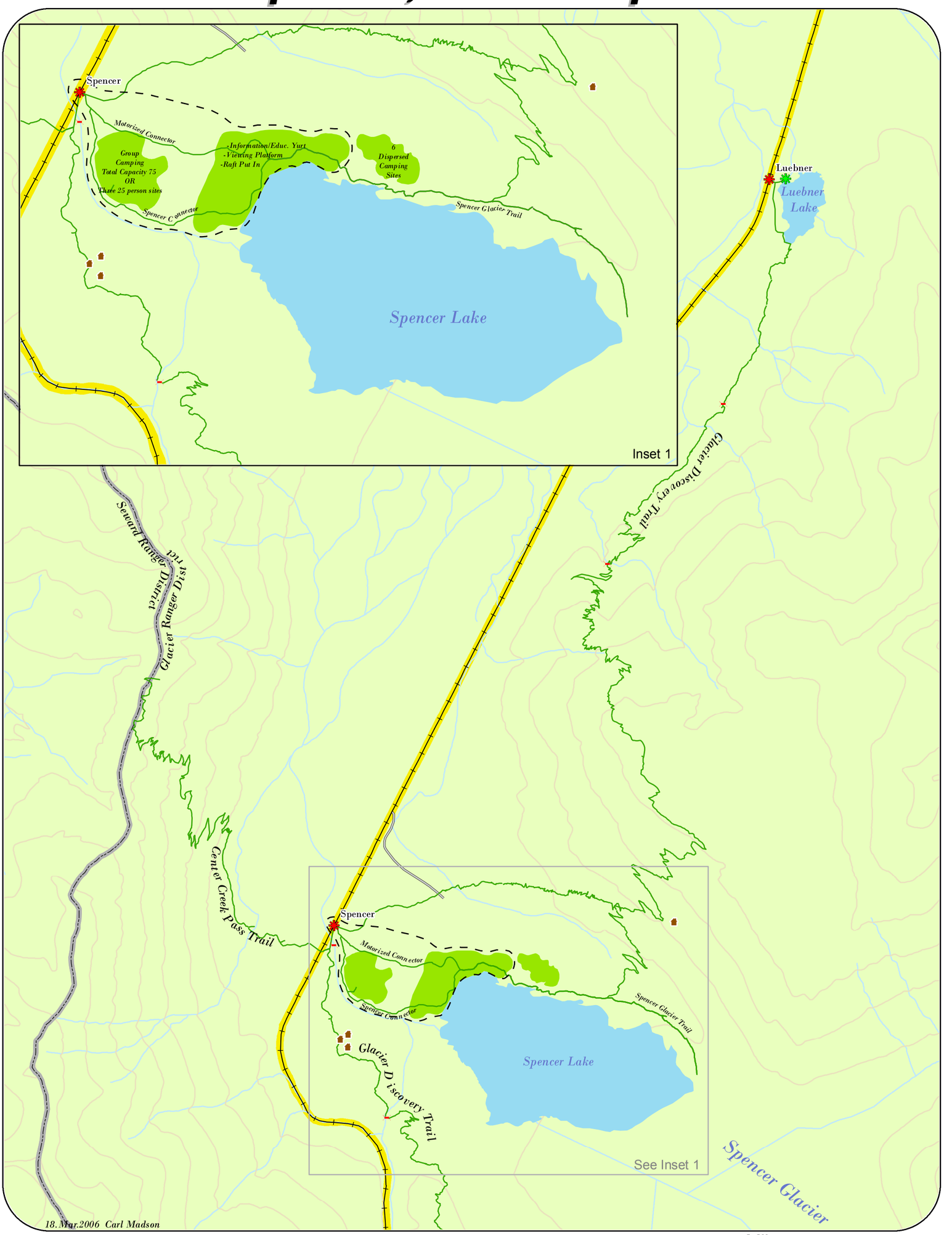
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Non National Forest
- Proposed Bridge
- Railroad*
- District Boundary
- Proposed Cabin Site

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

N

For more information see:
USGS Quadrangle Seward, AK: C6

Whistle Stop
Alternative 2
Luebner to Spencer, North Half



Miles

0 0.5 1 2 3

LEGEND

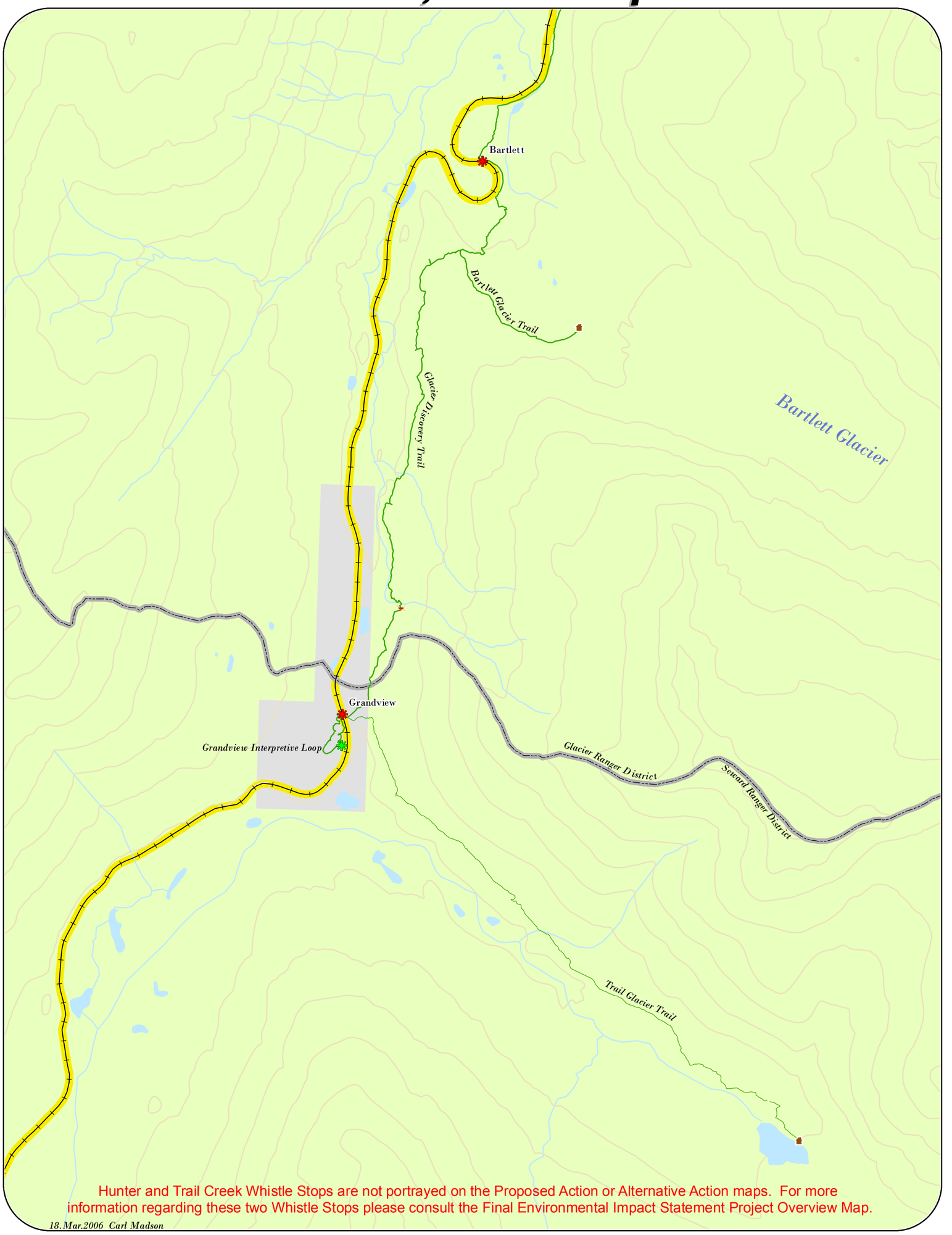
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Existing Road
- Proposed Bridge
- Railroad*
- Proposed Cabin Site
- District Boundary
- Proposed Developed Recreation Complex Boundary

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

For more information see:
USGS Quadrangle Seward, AK: C6, D6

N

Whistle Stop
Alternative 2
Bartlett to Grandview, South Half



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18.Mar.2006 Carl Madson

0 0.25 0.5 1 1.5 Miles

LEGEND

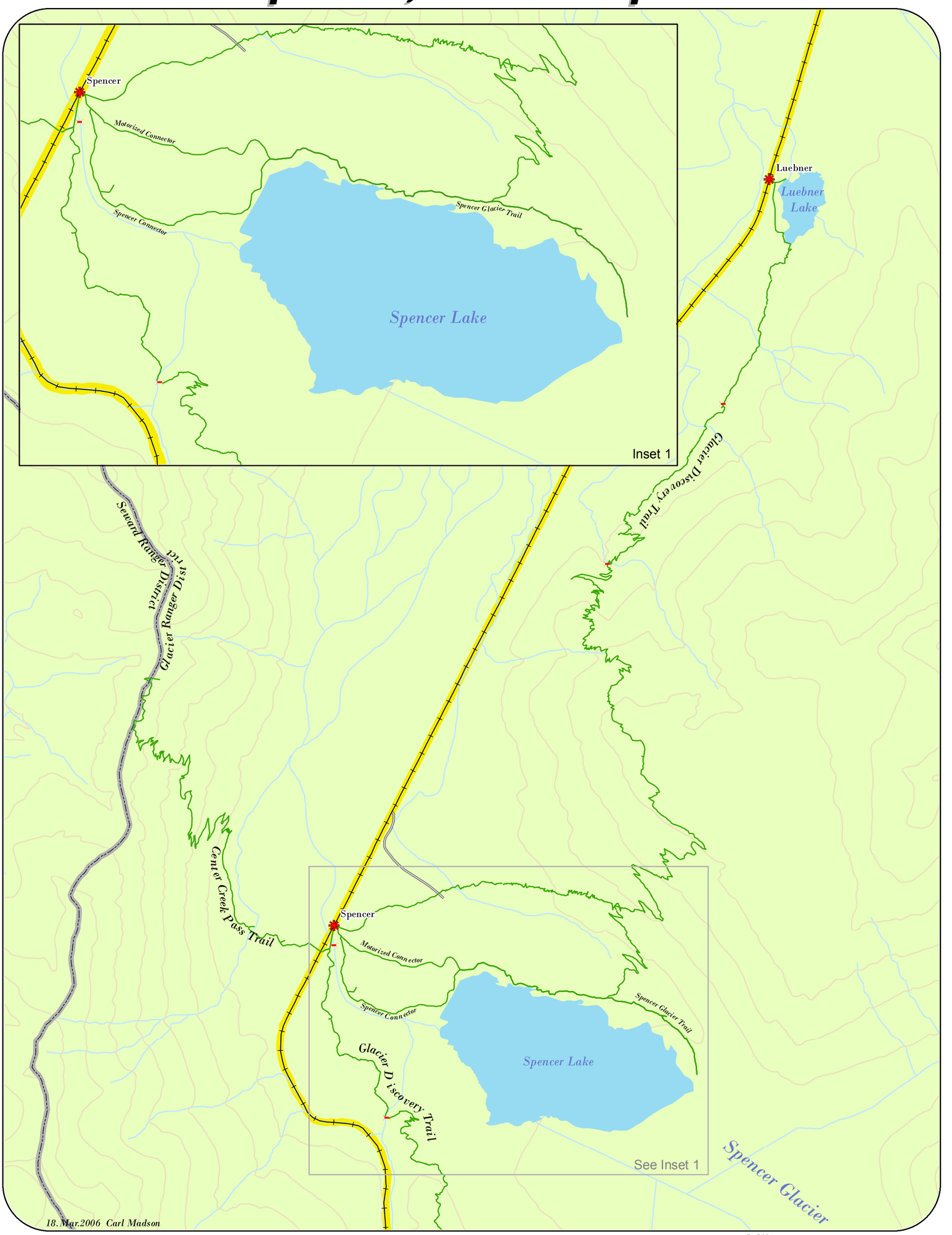
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Non National Forest
- Proposed Bridge
- Railroad*
- District Boundary
- Proposed Cabin Site

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

For more information see:
USGS Quadrangle Seward, AK: C6

N

Whistle Stop
Alternative 3
Luebner to Spencer, North Half



Miles
0 0.5 1 2 3

LEGEND

- Whistle Stop
- Viewing Platform
- Proposed Trail
- Existing Road
- Proposed Bridge
- Railroad*
- District Boundary
- Proposed Cabin Site

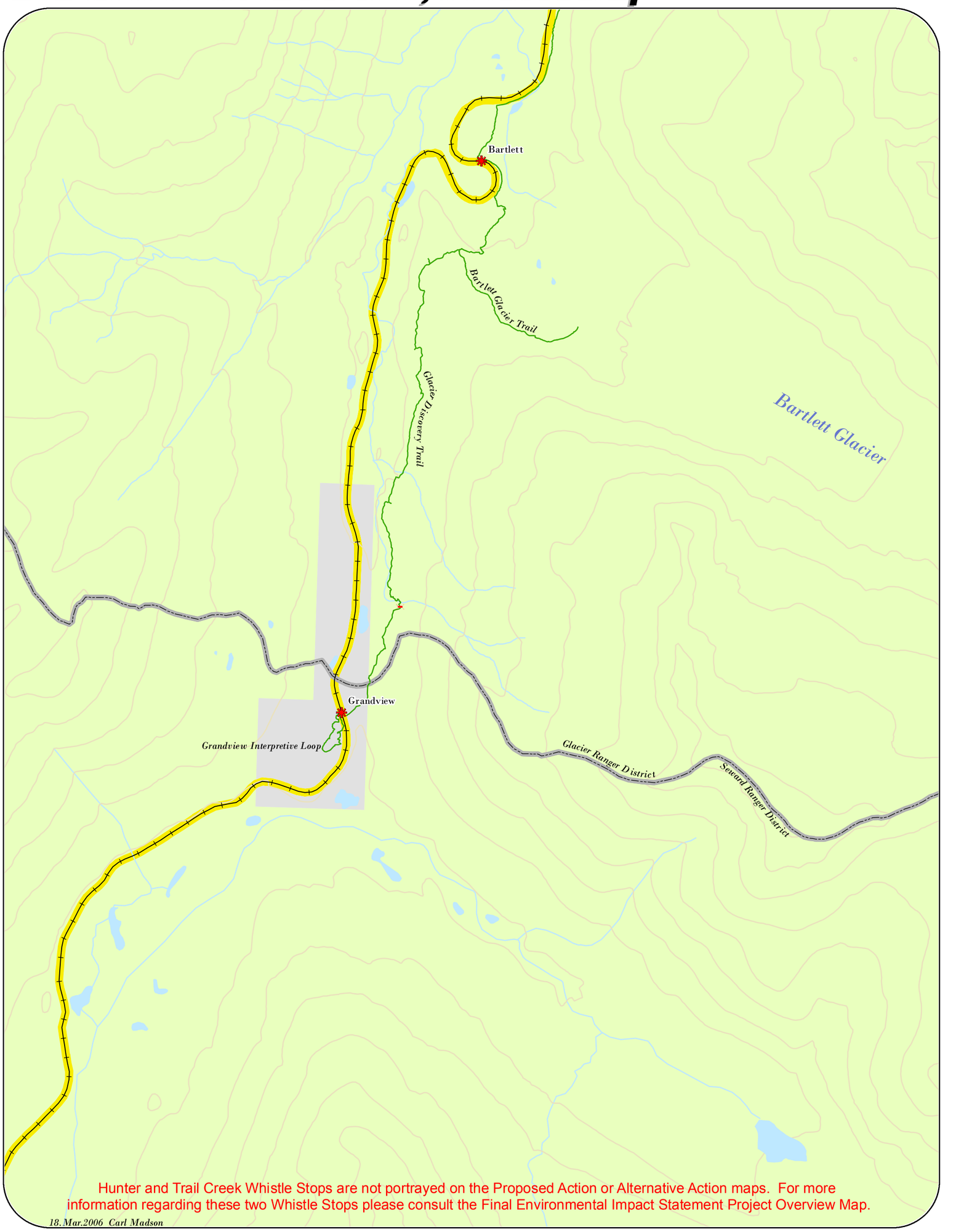
500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

ALASKA

For more information see:
USGS Quadrangle Seward, AK: C6, D6

N

Whistle Stop
Alternative 3
Bartlett to Grandview, South Half



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18.Mar.2006 Carl Madson

0 0.25 0.5 1 1.5 Miles

LEGEND

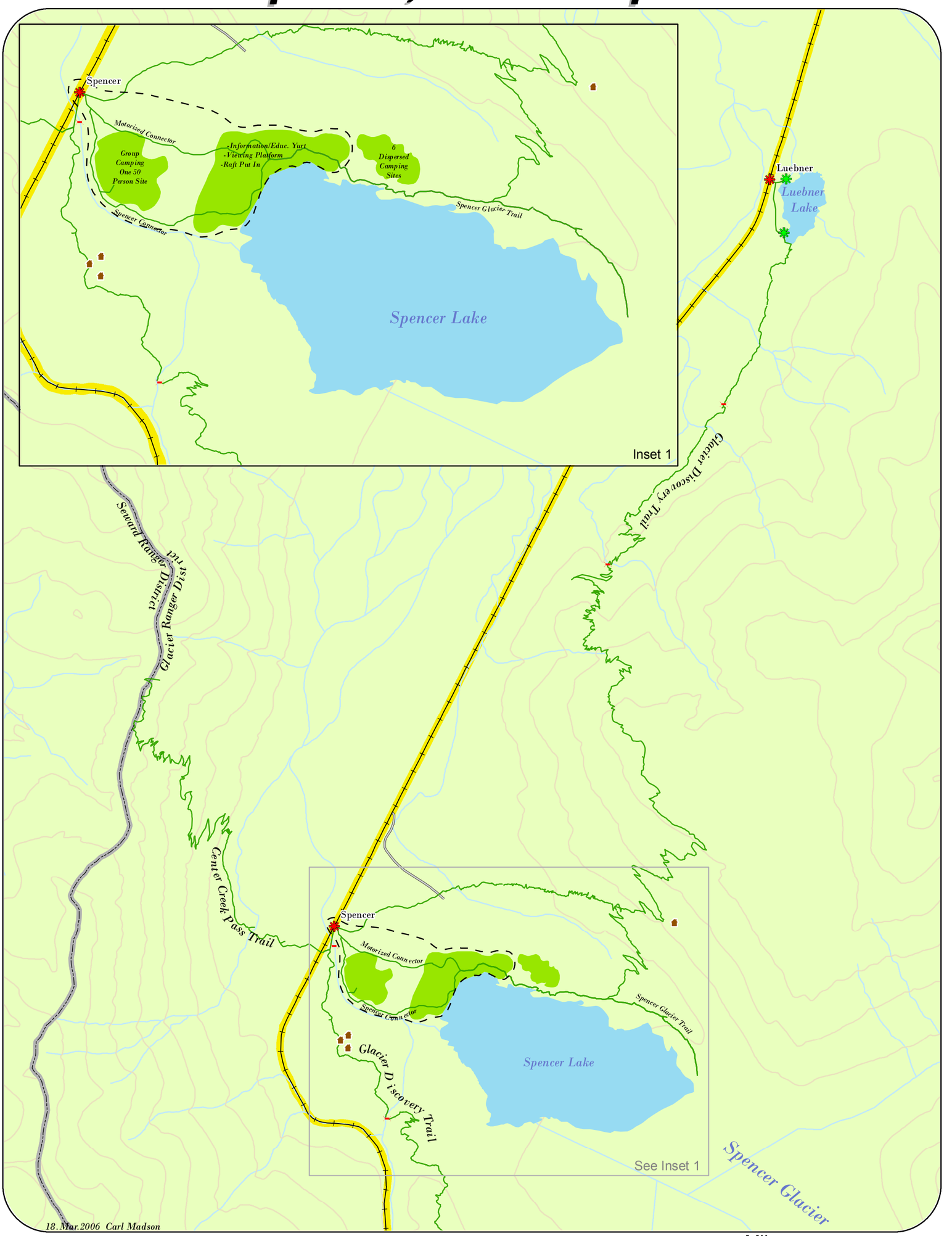
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Non National Forest
- Proposed Bridge
- Railroad*
- District Boundary
- Proposed Cabin Site

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

For more information see:
USGS Quadrangle Seward, AK: C6

N

Whistle Stop
Alternative 4
Luebner to Spencer, North Half



Miles

0 0.5 1 2 3

LEGEND

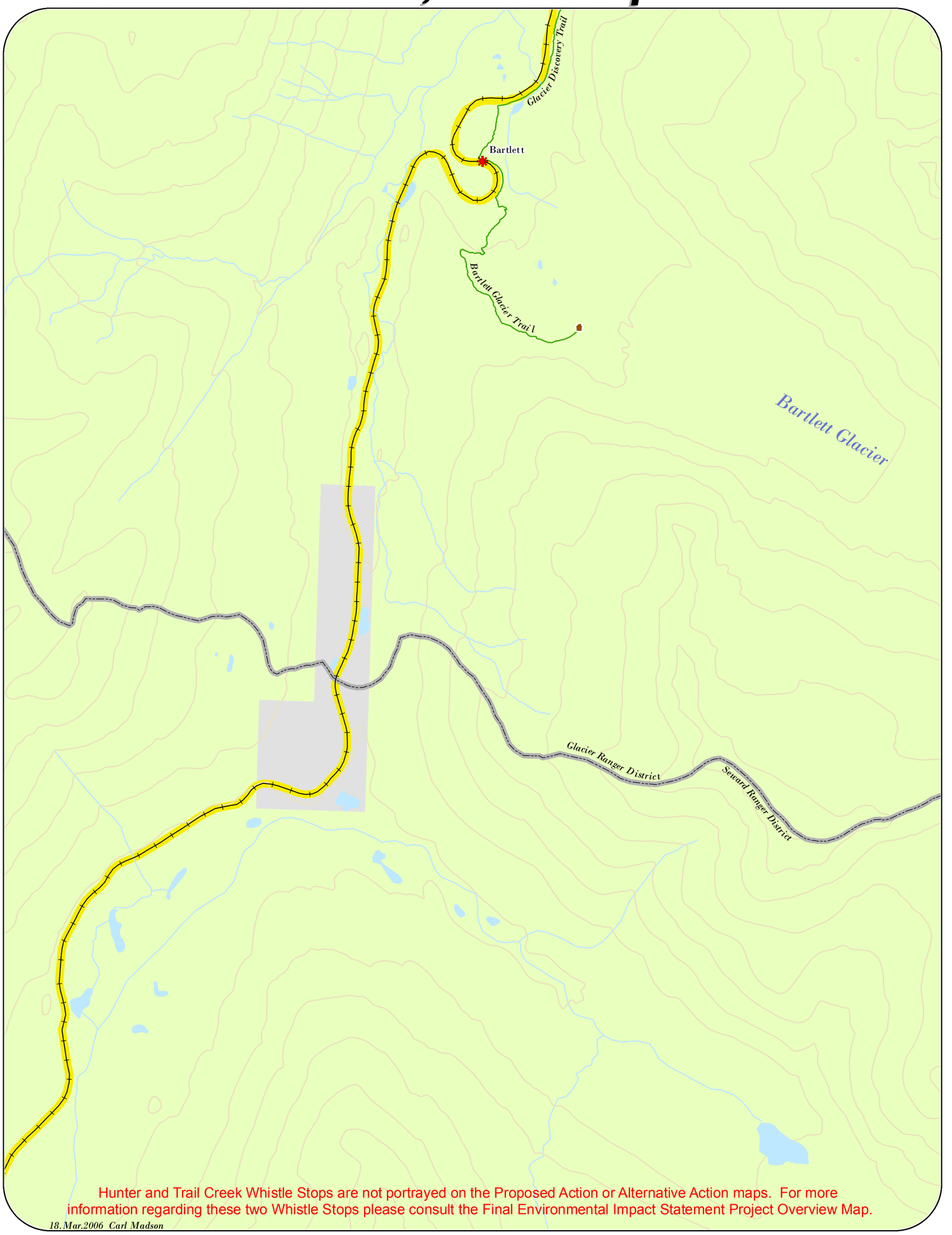
- Whistle Stop
- Viewing Platform
- Proposed Trail
- Existing Road
- Proposed Bridge
- Railroad*
- Proposed Cabin Site
- District Boundary
- Proposed Developed Recreation Complex Boundary

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

For more information see:
USGS Quadrangle Seward, AK: C6, D6

N

Whistle Stop
Alternative 4
Bartlett to Grandview, South Half



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18.Mar.2006 Carl Madson

0 0.25 0.5 1 1.5 Miles

LEGEND

- Whistle Stop
- Viewing Platform
- Proposed Trail
- Non National Forest
- Proposed Bridge
- Railroad*
- District Boundary
- Proposed Cabin Site

500 ft. Contour Intervals
*AKRR railroad property generally extends 100ft each side of tracks
North American Datum 1927 (NAD27) Universal Transverse Mercator, zone 6N

ALASKA

N

For more information see:
USGS Quadrangle Seward, AK: C6

Chapter 3: Affected Environment and Environmental Consequences

Introduction

This chapter describes the current environment that would be affected by the alternatives, followed by the environmental effects of each alternative. The affected environment section lays the foundation for the environmental analysis relevant to the various alternatives that are proposed in this document. The environmental consequences relate mainly to the four issues associated with this analysis that were identified through public and agency scoping as described in Chapter 1. Issues within the scope of the project decision include:

- Alteration of the existing recreation setting with the development of recreation infrastructure.
- Change to the existing social experience in the backcountry environment.
- Potential conflicts between existing and future mining activities and predicted recreation use in the project area.
- Potential adverse impacts to wildlife species from recreation development in the project area and the resulting increase in visitor use.

Other Existing or Reasonably Foreseeable Projects

Any action that results in more people in the backcountry or more disturbances of natural habitats in or near the project area has the potential to cause cumulative impacts to recreation settings and wildlife. The following existing or potential future projects may have environmental impacts in the project area:

Iditarod National Historic Trail (INHT)

An Environmental Assessment has been completed for the preservation, development and management of the INHT between Seward and Girdwood, Alaska. Through field survey and reconnaissance, the Forest Service has identified potential locations for the establishment of a continuous trail, part of which will be located in proximity to the proposed Whistle Stop at Trail Creek. The section of trail that would be constructed near the Trail Creek Whistle Stop is scheduled for development in the next 5-10 years and has the potential to bring recreationists into other portions of the Whistle Stop Project area through the Trail Creek Whistle Stop site.

Hut-to-Hut proposal

The Alaska Mountain and Wilderness Huts Association (AMWHA) has submitted a proposal to develop a system of backcountry huts that would be open to the general public and accessed through a trail system, a portion of which presently exists. This project proposal is listed on the Schedule of Proposed Actions (SOPA) and is currently being reviewed through an Environmental Impact Statement (EIS) conducted by the Forest Service. One proposed Hut is located on the top of Center Creek Pass, and may be connected to the Spencer Glacier Whistle Stop site via the Center Creek Pass Trail, which is analyzed in this EIS.

Development of a trail to access this cabin from both the west and east has a potential to increase day hiking opportunities and overnight trips into the backcountry thereby increasing recreational use of the Whistle Stop Project area, particularly around Spencer Glacier.

Commercial recreation leasing on State Land at Grandview

In their Kenai Area Plan, the State of Alaska Department of Natural Resources (DNR) identifies the potential for commercial recreation leasing on some amount of the 320 acres of State lands in the Grandview area. It is mentioned in the plan that the "DNR is not proposing to develop the unit at this time, nor has it received an application for this type of use (State of Alaska DNR Kenai Area Plan, 3-37)", and "at Grandview, state lands will be managed to provide opportunities for train passengers both in summer and winter (Kenai Area Plan, 3-30)." It is possible that with development of Whistle Stop service at Grandview, there could be increased interest in commercial recreation development in the area, therefore introducing an enlarged presence around Grandview as well as the general Whistle Stop Project location.

Outfitter/Guide Use

Currently there is limited outfitter/guide use throughout the Whistle Stop Project area. Existing permits cover a variety of recreational pursuits (rafting, canoeing, hiking and fishing), yet the majority of outfitting use is through one permittee who conducts rafting and canoeing trips on Spencer Lake and down the Placer River (see Appendix C for outfitter/guide use numbers). With increased visitation to the area, there is a high potential for an increased need and opportunity for a variety of outfitting and guiding ventures, including rafting, hiking, mountain biking and mountain climbing. There is additional outfitting and guiding that occurs in the winter months, but the current proposed configuration of Whistle Stop service takes place between May and September.

Johnson Pass Trail

The Johnson Pass Trail is a popular 23-mile point-to-point backcountry opportunity for Chugach National Forest visitors. It is popular for hikers, backpackers, and mountain bikers in the summer months. Development of trails in the Center Creek area (through the Hut-to-Hut proposal) and the Spencer Lake area (through the Whistle Stop proposal) will encourage users to utilize the Johnson Pass Trail to access the Whistle Stop area, which has the potential to increase the number of day and overnight users in the project area.

Development of Mineral materials at Spencer Glacier

Approximately 400 acres of placer mining claims are located in the Spencer Lake area, located at the Spencer Lake outlet north of the Placer River. Minimal activity has taken place with these claims over the past several years. A recently developed plan of operations allows motorized use to occur in the area in conjunction with development of these claims.

Additionally, just to the north-west of Spencer Lake, approximately 245 acres have been managed as a mineral materials site since 1978. Although the site has not been in operation for several years, there is the potential for future mining of resources; multiple responses were received to a solicitation of interest issued by the Forest Service for potential removal of rock, sand and gravel. The environmental analysis for this project will be initiated by the Chugach National Forest in 2006.

Recreation/Special Uses

Affected Environment

Summer use

Due to the lack of public roads and trails, the Placer River Valley has historically been relatively inaccessible to the majority of Chugach National Forest visitors. Therefore, in general, recreation use in this drainage is much lower than road-accessed portions of the Chugach National Forest and overall summer use is relatively low (less than one person/day) because of strenuous or costly access to this area.

The main avenue for transportation through this corridor is via the Alaska Railroad. The ARRC conducts daily passenger trips throughout the area (Table 3-1) during summer months only. Yet without a developed infrastructure in the area (i.e., a Whistle Stop station, trails), the Railroad will not allow the public to disembark the train due to safety concerns associated with people walking along the tracks to access the Chugach National Forest backcountry. The exception to this is an agreement that the ARRC has with an outfitter/guide, where only clients of the outfitter/guide are allowed to exit the train at Spencer Lake, and raft Spencer Lake and the Placer River.

Independent of railroad access, during the summer recreationists have the ability to access the Placer River area by boat; by airplane or helicopter; and by foot through cross-country travel. Non-guided boat use on the Placer River has never been quantified, but anecdotal information indicates that use is low (less than 5 boats/day). Use is even rarer until mid-August when fishing opportunities increase and in September when duck hunting begins (personal communication, S. Stash). Outfitter/guide boat use on the Placer River occurs and is detailed in Appendix C. Fewer boats travel up the Placer towards Spencer Lake, possibly because fish populations are higher on the lower Placer River. Access by air and by foot is occurring, however, these modes of access have not been quantified in this area. Due to a lack of developed infrastructure (e.g. trails), and the remote nature of the area, foot traffic is believed to be extremely low (with encounters less than 1-2 parties/day) throughout the area, consisting of hunters, anglers, and rugged backcountry adventurers. Summer recreation use in the Trail Creek Valley (Grandview south to Trail Creek) follows similar patterns described above

because of similar barriers to access, with use concentrated on waterways to facilitate activities such as fishing and hunting.

There are five outfitters and guides who operate in the project area during the summer, providing services including rafting, canoeing, hiking, fishing, flightseeing, and motorized boat-tours. Appendix C details the use levels of each permittee.

Winter use

The ARRC only envisions summer support to the Whistle Stop Project area, however there is the possibility for winter recreation use to increase due to potential future recreation infrastructure (e.g., public-use cabins), which in turn may ultimately result in transportation of passengers during the winter months. Therefore, it is important to assess the status of winter use in the project area.

As with many areas of Alaska, recreation use in the Whistle Stop Project area increases in the winter due to a firm snowpack and frozen waterways. There is evidence of both snowmachine and backcountry ski use throughout the entire Placer River drainage from November – April (except for the Skookum Glacier Drainage, which closes to motorized use April 1) as well as the Trail Creek drainage (see Appendix D for figures). Both independent and guided snowmachine use has been documented not only in the Placer Valley, but also throughout the numerous drainages and glaciers (such as Spencer Glacier) in the valley (See Appendix C for outfitter/guide numbers). Motorized snowmachine use is dictated though, by snowpack. If the snow depth is not sufficient to protect area resources, the entire Placer River Valley is closed to snowmachine use until adequate snowfall develops.

Helicopter assisted skiing also takes place in various locations throughout the Placer River Valley, generally from January to April. Heli-skiing use data in the Whistle Stop project area can be found in Appendix C. Additionally, the Alaska Railroad runs one winter trip into the Grandview area each season. This trip takes place in the early spring and transports non-motorized backcountry travelers for a one-day trip into the Grandview area.

There are six outfitters and guides who operate in the project area during the winter, providing services including snowmobile tours, skiing, heli-skiing, and flightseeing. Appendix C details the use levels of each permittee.

Existing Alaska Railroad passenger operations

Currently the Alaska Railroad conducts daily business, carrying both freight and passengers, throughout the project area multiple times per day. In terms of passenger business, up to three trains per day visit the project area during the summer months: The Coastal Classic and Glacier Discovery both operate daily from mid-May to mid-September and a train chartered by cruise ship companies periodically traverses the project area. At this time, due to Alaska Railroad

requirements, the only visitors exiting the train must utilize the services of a rafting outfitter/guide at Spencer Lake (on the Glacier Discovery Service). Totaling an average of less than 50 people a day, visitors are shuttled to Spencer Lake via bus and then float down the Placer River (see Appendix C) returning to the train at Luebner Lake. Table 3-1 exhibits both the currently existing passenger train service in the project area for both summer and winter, as well as the proposed future Whistle Stop train service.

Table 3-1. Existing and proposed Alaska Railroad Passenger service in the project area.

Service	Name of trip	Train Route	Capacity	Round trips/day
Existing	Coastal Classic	Anchorage-Portage-Seward	205	1 (summer)
Existing	Glacier Discovery	Portage-Spencer-Grandview	205	1 (summer)
Existing	Grandview (Chartered cruise ship trips)	Varies	304	< 1 (summer)
Existing	Ski Train	Portage-Spencer-Grandview	750	1 trip/year (winter)
Proposed	Whistle Stop service	Portage-Grandview-Trail Creek	170	4 (max.) (summer)

Forest Plan Management Direction

The Whistle Stop Project area consists of three Management Area Prescriptions: Backcountry, Brown Bear Core Area, and Developed Recreation Complexes.

Backcountry and Brown Bear Core Management Areas

The majority of the project area is located in the Backcountry Management Area (59,640 acres), followed by the Brown Bear Core Management Area (13,913 acres). Under the Recreation Opportunity Spectrum (ROS) Classification System, these management areas are under the Semi-Primitive ROS class, described below (Forest Plan, 3-38 and 3-39):

- On trail solitude is expected to be high to moderate, with the level of on trail encounters moderate (< 15 parties/day)
- Off trail solitude is expected to be very high, with the level of off trail encounters low (< 6 parties/day)
- Maximum party size is 24
- The degree of risk and challenge is high to moderate
- Surface access is non-motorized, with trails managed up to a Class 3 level and with the route and tread maintained regularly
- Air/water access is both motorized and non-motorized

- Facilities will be constructed to a Development Scale 2 (see Appendix G for details)

Developed Recreation Complexes Management Area
The Spencer Glacier area is located in the Developed Recreation Complexes Management Area, with boundaries ranging from 0 to 187 acres in the different alternatives. Under the Recreation Opportunity Spectrum (ROS) Classification System, this management area is under the Roaded Modified ROS class, described below (Forest Plan, 3-38 and 3-39):

- On trail solitude is expected to be low, with the level of on trail encounters high (> 15 parties/day)
- Off trail solitude is expected to be moderate to low, with the level of off trail encounters low (< 6 parties/day)
- No maximum party size is established
- The degree of risk and challenge is moderate to low
- Surface access is both motorized and non-motorized, with trails managed to a Class 3 or 4 level and with the route and tread maintained on an annual basis or as needed to minimize resource impacts
- Air/water access is both motorized and non-motorized
- Facilities will be constructed to a Development Scale 3 (see Appendix G for details), and designed with a rustic style, including both trails and directional signage

Environmental Consequences of each Alternative

Please reference Chapter 1 for the Issue Statements and related measurements/indicators used to determine the environmental consequences of each alternative in this document.

No Action

Recreation settings (physical)
Direct, indirect and cumulative effects – Under the No Action alternative, there will be no Whistle Stop related facility development in the Whistle Stop Project area. Therefore, access into the project area will be limited to existing waterways, difficult cross-country travel, air travel, and limited Alaska Railroad Train service. Outfitters and guides will continue to operate in the area,

conducting primarily water-based activities such as canoeing, rafting, fishing and motorized boat tours (see Appendix C for use figures).

Recreation settings (social)
Direct and indirect effects – Under the No Action alternative, social encounters will remain at a minimal level (1-2 parties/day or less) and users will have a high degree of solitude. The exception would be along the major waterways (Placer River and Trail Creek) where access is concentrated and the potential to encounter other groups is greater (2-5 parties/day or less). Recreation use will be highly dispersed due to the lack of any developed recreation infrastructure. With this alternative, existing patterns of use would remain the same with changes occurring due to future changes in recreational use patterns. Waterways will continue to be the primary locations for social encounters (Placer River and Trail Creek) and, due to the nature of rivers and lakes, use will be relatively concentrated.

The only organized recreation activity in the area today is the guided rafting along the Placer River between Spencer Lake and Luebner Lake. Access is controlled by the railroad and only people going on this trip can get off the train. There may be approximately 45 people, floating the River in groups of 6-8. With the relative proximity of the rafts (generally within sight and sound of each other), this is typically considered as 1 group. This activity is expected to continue at this level in the No Action alternative. Outfitters and guides will continue to operate, conducting primarily water-based activities such as canoeing, rafting, fishing and motorized boat tours. The majority of the outfitting/guiding activity occurs in the Spencer Lake/Placer River drainage, leaving the majority of the project area currently unused by outfitters/guides.

Cumulative effects – The No Action alternative will have no cumulative effects on the recreation setting.

Effects common to all Action Alternatives

Recreation settings (physical)
Direct and indirect effects – For all action Alternatives, all public access, once off the train, will be by foot or bicycle. Only one service road is proposed at Spencer Glacier (in all alternatives except Alternative 3) to facilitate operations of the outfitted and guided rafting. Proposed structures (cabins, information signs, etc.) are very limited, dispersed and will be located and designed to blend into the landscape. Little clearing and removal of vegetation or land form modifications are proposed. Each cabin is estimated to affect ½ acre and dispersed campsites approximately ¼ acre each. Trails proposed in all alternatives are located to facilitate access to the major attractions at each site or provide an interconnecting route between attractions. The natural appearing landscape and generally wild character of the existing physical setting will be maintained and is consistent with semi-primitive recreation opportunity spectrum setting. See

Tables 3-2 and 3-3 below for a comparison of recreation facilities and their impact to the recreation setting (physical), by Alternative.

The natural and wild character will be most affected in the Spencer area, where a higher density of development is proposed. With trails constructed at a higher standard and facilities such as an agency information and education yurt available, there will be some change in the recreation setting. The footprint of these changes will be small and the surrounding landscape will be essentially untouched resulting in a recreation setting that, while changed in the immediate area, will be natural and wild in character overall. The agency information and education yurt is estimated to affect approximately ½ acre, the viewing platform approximately ¼ acre, the group use area between 2-5 acres, and the cabin cluster about 1½ acres. For people with lesser outdoor skills, disabilities, or simply reluctance to venture into the wild, the Spencer Glacier site will provide a recreation setting that will immerse people into the middle of a wild and natural landscape in a safe and controlled manner. This level of development, while changing the current physical setting, is consistent with the management direction for this local area (i.e. Developed Recreation Complexes).

Cumulative effects – With development of a Whistle Stop at Grandview (except in Alternative 4), there may be increased interest in commercial recreation leasing in the Grandview area on State DNR lands. Development on State lands will ideally use structural design and location to minimize any reduction in the natural landscape character. Development of a Whistle Stop at Trail Creek (except in Alternatives 3 and 4) may increase the potential that Iditarod National Historic Trail construction will focus on the section of trail connecting to the Trail Creek Whistle Stop, potentially introducing more visitors into the Whistle Stop Project area.

Table 3-2. Concentrated Recreation-use Facilities and Acres Impacted, by Alternative

Facilities[1] / Alternatives	Whistle Stops	Developed Node Trails[2]	Info. Yurt	Group Use area	Viewing Platform	Raft Put-in	Raft Take-out	Total Acres Impacted[3]
No Action	0	0	0	0	0	0	0	**0**
Proposed Action	6	4.5	1	1	4	2	2	**18.0**
Alternative 1	6	4.5	1	1	3	2	2	**17.75**
Alternative 2	5	4.5	0	1	3	1	1	**15.75**
Alternative 3	4	4.5	0	0	0	0	0	**8.5**
Alternative 4	3	3.5	1	1	3	1	1	**11.25**

Table 3-3. Dispersed Facilities and Acres Impacted, by Alternative

Facilities / Alternatives	Dispersed sites	Cabins	Trail miles[4]	Total acres Impacted[5]
No Action	0	0	0	**0**
Proposed Action	48	6	27	**42**
Alternative 1	42	6	27	**40.5**
Alternative 2	28	6	27	**37**
Alternative 3	8	0	23	**25**
Alternative 4	30	5	19	**29**

[1] Facilities are listed by the *number* of facilities in each alternative and are then multiplied by the acreage impacted per facility

[2] This includes trails that are integrally linked to Whistle Stop development including: Spencer Glacier Trail (1.5 miles), Spencer connector trail (1 mile), Bartlett Glacier Trail (1 mile) and Grandview Interpretive Trail (1 mile).

[3] Approximate impact of each facility is as follows: Trails – 1 acre/mile; information yurt – ½ acre; group use area (2-5 acres); viewing platform – ¼ acre; raft put-in and take-out – ¼ acre/each.

[4] This includes trails that are considered backcountry trails, as they are not directly linked to Whistle Stop development. These trails include: Glacier Discovery Trail (18 miles), Trail Glacier Trail (4 miles) and the Center Creek Pass Trail (5 miles).

[5] Approximate impact of each facility is as follows: Dispersed sites – ¼ acre/each; cabins – ½ acre each; trails – 1 acre/mile.

Table 3-4. Estimate of costs, by Alternative and grouped by Recreation facility[6]

Facility	Alternative					
	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Whistle Stops	0	1,800,000	1,800,000	1,600,000	1,300,000	1,300,000
Viewing Platforms	0	200,000	150,000	150,000	0	150,000
Rafting take-out locations	0	40,000	40,000	20,000	0	20,000
Rafting put-in locations	0	0	0	0	0	0
Spencer Information Yurt	0	45,000	45,000	45,000	0	45,000
Dispersed campsites	0	240,000	210,000	130,000	40,000	180,000
Public-use cabins	0	600,000	600,000	600,000	0	500,000
Group campsite	0	120,000	100,000	100,000	0	100,000
Trails	0	3,500,000	3,500,000	3,500,000	3,200,000	2,800,000
Total estimated cost	**0**	**6,545,000**	**6,445,000**	**6,145,000**	**4,540,000**	**5,095,000**

[6] Not included in the cost of each alternative is rolling stock that will be essential to provide access to the project site.

Recreation settings (social)
Direct effects – This project will provide an easy access route to up to six places along the railroad corridor. Trails will provide opportunities for people to disperse into the backcountry. The six stops will provide some dispersion of people, but at the Whistle Stops, people will be crowded into a small area. As visitors begin dispersing on trails or cross-country, densities would decrease and encounters should be reduced (1-2 parties/day cross-country). Along trails, hikers should expect to run into some groups (2-4 parties/day on trails), not unlike other hiking opportunities on Forest Service trails in South-central Alaska (Resurrection Pass, Johnson Pass or Lost Lake Trails, for example). At major destinations, such as at the end of the Bartlett Glacier Trail, users can expect to run into additional groups (4-6 parties/day), therefore, the degree of solitude as compared to existing conditions will be reduced. Dispersed campsites and cabins will separate backcountry parties so they have a feeling of solitude, but contact from others is to be expected. Even with the additional backcountry users, the changes in the social setting will be consistent with a semi-primitive recreation opportunity spectrum setting.

In all alternatives, Spencer Glacier is expected to be the major attraction. Facilities proposed will accommodate large numbers of people and will be designed to accommodate all abilities. In the immediate area of Spencer Glacier users should expect to consistently encounter a number of other visitors (more than 15 parties/day), both at recreation sites and on trails. There will be a highly reduced feeling of solitude within the vicinity of Spencer Lake. With more highly developed trails, a greater diversity of recreation facilities and a readily available opportunity to engage in outfitted and guided trips, there is a likelihood of encountering both a higher number of users and larger size groups. This level of social encounters will be a significant change from the current social setting. However, this change is consistent with the long-term management direction for this local area.

Social encounters will be directly dependent on both the schedule of operation and the type of operational equipment used by the Alaska Railroad. With the current schedule and passenger car equipment, up to 205 people can gain access to the project area each day (via Railroad transportation). When the self-propelled rail cars (DMUs) are acquired, service will be expanded and up to 672 people/day (four round trips with 168 people per trip) can be transported into the project area, if the trains operate at maximum capacity. Furthermore, the project would be developed in phases, and as additional locations were made available for public access, it is assumed that users will disperse to different locations, therefore reducing the number of parties/day one may encounter in the backcountry, and increasing the level of solitude. Additionally, if self-propelled rail cars are not acquired, the Bartlett Glacier Stop will not be developed as current passenger cars do not have the operational ability to stop at this location. Tables 3-5 and 3-6 provide tabular information detailing the expected dispersal of

users throughout the Whistle Stop project area, and the effect on the recreation setting (social), by Alternative.

Indirect effects – While the Whistle Stop Project is not proposing any winter service, there is still the potential for a slight increase in winter use due to the construction of facilities such as the public-use cabins, particularly the cabin cluster in the Spencer Lake area and the cabin at Bartlett Glacier. The availability of these cabins may encourage more users to both access the area and engage in a longer stay. The impact to the social experience will be minimal with this potential introduction of additional winter use in the area.

Cumulative effects – Cumulative effects on recreationists can be expected with development of the potential mining activity at Spencer. This resource use has the potential to create visual and noise impacts for people accessing the mid- and upper-Placer River Valley areas. Whistle Stop development in Grandview (except in Alternative 4) has the potential to encourage State of Alaska development of commercial recreation leasing in the area, thereby increasing the potential number of encounters in the area. Finally, recreation use may overlap between the Iditarod National Historic Trail (INHT) and the Whistle Stop project area due to INHT development and its proximity to the Trail Creek Whistle Stop station (except in Alternatives 3 and 4).

Table 3-5. Maximum Level of Encounters per Day by Alternative at Concentrated Recreation-use Facilities[7]

	Day trip visitors[8]/ groups[9]	Whistle Stop and number of groups encountered per day[10]					
Alternative		Spencer	Grandview	Bartlett	Luebner	Trail Creek	Hunter
No Action	0	0	0	0	0	0	0
Proposed Action	538/135	79	14	14	14	0	14
Alternative 1	538/135	79	14	14	14	0	14
Alternative 2	538/135	93	14	14	14	0	---
Alternative 3	538/135	93	14	14	14	---	---
Alternative 4	538/135	93	---	21	21	---	---

[7] Concentrated Recreation-use facilities include viewing platforms, trail systems associated with Whistle Stops (i.e., Spencer Glacier Trail), and group camping facilities.
[8] Day trip visitors are expected to account for 80% of Whistle Stop visitors according to the Whistle Stop Project Business Plan. This accounts for 538 of the maximum capacity of 672 visitors with DMU service running 4 trips per day.
[9] Assuming an average group size of four.
[10] Percentage of expected use at each Whistle Stop location is determined by both availability of proposed facilities and proximity of natural features.

Table 3-6. Maximum Level of Encounters by Alternative at Dispersed Facilities[11]

Alternative	Extended Trip visitors[12]/ groups[13]	Whistle Stop area and number of groups encountered per day[14]					
		Spencer	Grandview	Bartlett	Luebner	Trail Creek	Hunter
No Action	0	0	0	0	0	0	0
Proposed Action	134/34	26	2	2	2	1	1
Alternative 1	134/34	26	2	2	2	1	1
Alternative 2	134/34	26	3	2	2	1	---
Alternative 3	134/34	25	3	3	3	---	---
Alternative 4	134/34	26	---	4	4	---	---

Wildlife

Affected Environment

The Chugach National Forest provides habitat for an estimated 232 vertebrate species including 51 mammals, 179 birds, and 2 amphibians. These species contribute to the health of the Forest and provide Forest users with a full range of opportunities that include consumptive and non-consumptive activities (USDA Forest Service, 2002). Many of these species are found in the Whistle Stop project area. Of them, this EIS discusses 1) Federally listed threatened and endangered species, 2) Forest Service Region 10 sensitive species, 3) Forest Service management indicator species, 4) Species of special interest, 5) Other species of concern that may be affected by this proposal.

Threatened and Endangered Species

No threatened or endangered species occur in the project area.

[11] Dispersed facilities include cabins, campsites and extended trail system.
[12] Extended trip visitors are expected to account for 20% of Whistle Stop visitors according to the Whistle Stop Project Business Plan. This accounts for 134 of the maximum capacity of 672 visitors with DMU service running 4 trips per day.
[13] Assuming an average group size of four.
[14] Percentage of expected use at each Whistle Stop location is determined by both availability of proposed facilities and proximity of natural features.

Sensitive Species

Trumpeter Swan
A survey for trumpeter swans was conducted on 6-1-05 and 8-8-05, as well as during spring and fall of 2004. No swans or swan nests were found adjacent to any Whistle Stop, trail or proposed recreation locations. A pair of swans was identified in the fall within 1/2 mile of the Trail Creek Whistle Stop, outside of the nesting period. This pair was not associated with a nest.

Osprey
Ospreys are uncommon to rare throughout Alaska, localized near lakes, large rivers, and coastal bays. Occasionally, osprey migrate through the project area and sightings are reported. No nests are known in the project area.

Management Indicator Species

Management Indicator Species that may be present during project construction and future use include brown bears, moose, and mountain goat.

Brown Bear
The Kenai Brown Bear has been the subject of continuing study for over 20 years (Interagency Brown Bear Study Team, 2001). Brown bears move throughout the Kenai Peninsula using the resources of the ecosystem (mountain-side den sites, alpine foraging areas in the spring, riparian areas and fish streams in the summer, and upland berry patches in the fall). In spring, female brown bears with cubs are associated with upland habitats, in close proximity to cover. They are not closely associated with riparian areas, and avoid salmon streams until later in summer. They tend to stay near the den after emergence. Primary forage includes horsetail, skunk cabbage, grasses, and sedges associated with riparian areas, wet meadows, and forested areas (Suring et al*., in press*).

A recent genetic study found that brown bears are not genetically isolated from the mainland, and appear genetically stable (Jackson et al. *in review*). The total number of brown bears on the Kenai Peninsula is uncertain. Habitat modification and human activities such as road construction, residential and commercial developments, mining, timber harvest, and outdoor recreation has reduced the habitat of the brown bear on the Kenai Peninsula (Suring et al., 1998). Habitat modification and human activities have increased the number of brown bear killed in defense of life and property (DLP) (Suring and Del Frate, 2002).

To help mitigate such effects, the Brown Bear Core Area prescription was developed in the revision of the Forest Plan for the Chugach NF. This prescription was applied to selected landscapes and their associated habitats designed to be managed to meet population objectives for brown bears and to reduce dangerous encounters (especially DLP) between humans and brown bears. Such areas provide foraging sites, security cover and travel corridors to

meet the seasonal needs of brown bears. The Recreation Opportunity Spectrum ranges from Primitive to Roaded Natural, and new facilities such as viewing sites or interpretive signs, along existing roads or trails, are discouraged but may be constructed for minimizing or controlling bear-human interactions. Typically, trails will have a very low degree of use. Human access to the area may be difficult and is not encouraged. A Forest Plan standard recommends providing visitor education programs that emphasize minimizing bear-human conflicts for those entering brown bear core areas (Forest Plan 4-57, 4-58).

Repeatedly, habitat use, quality and availability are identified as important elements of brown bear management (IBBST 2001, Suring et al., 1998, USFWS 1993, Rhode et al*. in prep*., Suring et al. *in press*). Here the issue revolves around the importance of human activity with potential to displace bears from important habitats, and increases in mortality risk from DLP incidents.

Primary habitat for brown bears is identified as fishable reaches of salmon streams by both movement-based analyses and habitat-based analyses (Graves et al., *in prep*. Suring et al., *in press*). Salmon are a dominant food source for bears, used to increase bears fat stores for hibernation (Hilderbrand et al., 1999). Trail Creek is anadromous, actively containing spawning salmon from June through September (much of the project duration). It is a primary source of protein for brown bears living in this core area. Chugach National Forest GIS coverages display Trail Creek as a Class I stream (classified as having both anadromous and resident fish populations) until it takes a turn heading directly towards Trail Glacier. At this turn, Trail Creek changes to a Class III stream, which is classified as fishless. Surveys conducted by Chugach National Forest fisheries biologists confirmed the lack of fish presence along Trail Creek at this juncture and to the headwaters of Trail Creek at the base of Trail Glacier. This means that the likelihood of encountering a bear on the Trail Glacier Trail is less than encountering a bear along the anadromous section of Trail Creek.

Human presence alters the numbers of bears that feed in salmon streams, along with temporal and spatial patterns of bear feeding (Rhode et al., in prep.). When people are present, less bears frequent salmon streams. Bears that continue to feed on the stream alter their feeding times to different parts of the day (later at night) or places where people are not present (Rhode et al., in prep). Despite spatiotemporal changes, results of a two-year study indicate that bears body weight and composition were unaffected by the presence of people. Yet the energy expenditure for bears significantly increased for those changing feeding locations (Rhode et al., in prep). Long-term effects are not known.

Interestingly, boars and sows react differently to human presence. Nevin and Gilbert (2005) show that dominant boars are often displaced by human presence. This leaves gaps in fishable areas that sows, or sows with cubs use. While this could increase the reproductive potential of brown bears, it can also serve to increase DLP incidents.

These studies demonstrate that bears can be displaced by people (either by sex, timing and location). They do not evaluate long-term affects. They do insinuate that bear displacement could be contingent on the presence and availability of alternative food resources (S. Farley pers. comm). If alternative foods are readily available, a bear may be more likely to leave an area frequented by humans. Hence, understanding the distribution and availability of food may help assess the likelihood displacement of bears, from places that bears are feeding, and the affects the displacement may have over time.

Although Mace and Waller (1996) report that bear use seems to increase as distance from trails with campsites increased, grizzly bears can habituate to ongoing and predictable human activity. This can be both good and bad. It is good in that predictable human activity probably will not displace bears from preferred foraging areas or disturb crucial life processes. It can be negative though, where human activity is not closely regulated because habituation can be accompanied by food conditioning (that is, bears are conditioned to associate people with food). This can create a dangerous bear (Herrero, 1985).

Habituated but not food-conditioned bears can also be undesirable where human behavior is unpredictable. People may act inappropriately in close proximity to habituated bears and precipitate an aggressive response (Gilbert, 1989). Habituation usually leads to bear mortality from human conflict, hunter vulnerability or motor vehicle collision.

Moose

Moose are associated primarily with early to mid-succession habitat and riparian areas (USDA-Forest Service, 2002). On the Kenai Peninsula, limitations on population growth include winter habitat, predation, hunting, and mortality from vehicular collisions (Lottsfeld-Frost, 2000). Moose habitat exists throughout the project area and moose sign was noted in almost all areas during ground surveys. Additionally all individuals were consistently observed in the Placer River Valley during flight surveys conducted between 1993-1998.

Mountain goats

Mountain goats use cliffs, alpine, and sub-alpine habitats. They are generally found near steep cliffs with slopes over 50 degrees. Goats are most abundant in the highly glaciated coastal mountains and least abundant along the relative dry west slopes of the Kenai Mountain range where they coexist with Dall's sheep (Del Frate, 1994). Cliffs and steep broken ground are used as habitat to escape from predators. Mountain goat habitat typically lies above trail corridors in the alpine and on steep-rugged slopes. Goats have been sighted or sign has been noted at lower elevations. These locations are used by goats for travel between primary habitat areas or for winter foraging in old growth hemlock stands.

Some of these travel or foraging areas are within the project area. Primarily it is winter, not summer habitat that may limit goat populations in South-central Alaska (Suring et al., 1992). The Forest Plan aims to locate concentrated human activity away from important winter (occupied ~ November – April) and kidding (occupied ~May-June) habitats.

Species of Special Interest (SSI)

Bald Eagle

Bald eagles in South-central Alaska generally nest in old cottonwood trees near water and use the same nest each year (Daum, 1994). The nesting season is generally from March 1 to August 31 (USDA-Forest Service, 2002). A survey for bald eagle nests occurred on 5-4-05. No bald eagle nests were found.

Northern Goshawk

Northern goshawks are year-round residents of the Chugach National Forest (USDA-Forest Service, 1984). The majority of goshawk nests on the Kenai Peninsula are in old growth hemlock-spruce forests. Such forests are characterized by large-diameter trees having a closed canopy, with exposed gaps and an open understory (USDA-Forest Service, Seward District Goshawk files). The amount and location of feeding and nesting habitat appears to limit population viability in Southeast Alaska (Iverson et al., 1996). A survey completed May 4, 2005 found no primary goshawk nesting habitat in the area.

Marbled Murrelet

Marbled murrelets are medium sized seabirds that inhabit costal waters, inland freshwater lakes, and nest in inland areas of old-growth conifer forest on the ground (Carter and Sealy, 1988). Their presence has not been documented within the study area though potential may exist.

Townsend's Warbler

The Townsend's warbler is a neo-tropical migrant that breeds in Alaska. They are largely restricted to mature forest with tall coniferous trees, and are abundant in large undisturbed tracks of continuous forest, but will also use forest in late successional stages (Matsuoka et al., 1997). They are likely present in the study area given the availability of habitat.

Migratory birds

The FS works under an MOU with the USFWS to protect migratory birds. The Revised Forest Plan lists some migratory birds as threatened, endangered, sensitive, or species of special interest. Most species listed are considered common or abundant on the forest.

Canadian lynx, Gray wolves and wolverine

Canadian lynx are most likely found within the project area in relatively low numbers. Lynx use a variety of habitat, including spruce and hardwood forest. They require a mosaic of conditions, including early successional forests for hunting and mature forests for denning (Koehler and Brittell, 1990). Recent research suggests that lynx utilize large blocks of connected forest habitat with a mosaic of age classes (Seidel et al., 1998).

Gray wolves are habitat generalists, with main prey consisting of ungulates (Mech, 1970). Wolves usually live in packs that include parents and pups of the year. Pack size ranges from 2 to 12 animals. Wolves normally breed in February and March and the pups are born in May or early June (Stephenson, 1994).

Wolves have been documented as sometimes abandoning a den and moving pups to an alternative den if disturbed by humans (Mech et al., 1991). There are approximately 10-11 wolf packs on the Seward Ranger District (Ted Spraker, personal communication) and another 2 packs range across the Placer Valley, Turnagain Arm, and Portage Valley on the Glacier Ranger District (Cliff Fox, personal communication).

Wolverines have been characterized as one of North America's most rare mammals and least known large carnivores. They live in montane forest, tundra, and taiga (Wilson, 1982). They are primarily scavengers but also hunt birds and rodents, and will eat fruits, berries, and insects when other prey is unavailable (Hash, 1987). Although wolverines are difficult to survey, recent work indicates wolverines are distributed at a relatively low density across the mountainous areas of the Kenai Peninsula (Golden et al.).

Environmental Consequences

We used natural history, habitat requirements, GIS analyses, consultation with State and Federal biologists, Forest Plan direction, and review of pertinent literature to investigate the significance of potential disturbance for the species described in the Affected Environment section. Potential impacts to each species were assessed using the following ranked approach to address disturbance impacts on wildlife species (US Department of Interior, 1994).

Negligible effects

- No species of concern are present, no or minor impacts expected
- Minor impacts that do occur have no secondary (long-term or population) effects

Low Impacts

- Non-breeders of concern present in low numbers
- Habitat is not critical for survival; not limited to the area targeted for use, etc.

- No serious concerns expressed by State or Federal fish and wildlife officials

Moderate Impacts

- Breeding animals of concern are present and/or present for critical life stages
- Mortality/interference with activities necessary for survival are likely to occur occasionally
- Mortality/interference are not expected to threaten the continued existence of species in the area
- State and Federal officials express some concern

High Impacts

- Breeding animals present in high numbers and/or during critical life stages
- Areas have history of use during critical life stages during critical periods. Habitat is limited and animals cannot relocate to avoid impacts
- Mortality or other effects (injury, physiological stress, effects on reproduction and young raising) are expected on a regular basis; these effects threaten the continued survival of the species
- State or Federal officials express serious concern

Threatened and Endangered Species

No threatened or endangered species occur in the project area. Therefore, no direct, indirect or cumulative effects are expected from any of the alternatives.

Sensitive Species

Trumpeter Swan

Swans have been documented to use Trail River and if nests are found in the future, the rafting trips potentially promoted by this project could disturb nesting swans. Assuming mitigation measures defined in Chapter Two are implemented, we expect the project to have negligible effects on Trumpeter Swan populations on Chugach National Forest.

Osprey

There are no reports of ospreys nesting along the trail route nor are there any recorded nest locations on either the Seward or Glacier Ranger Districts. Therefore, assuming mitigation measures defined in Chapter Two are implemented, we expect the project to have negligible direct, indirect or cumulative effects on Ospreys.

Management Indicator Species

Brown Bears

We should expect more human-bear interaction along the trail networks being generated, especially near the Placer River during salmon spawning. This area is known to be preferred by bears, notably during the spawn (S. Farley personal communication). Recreation facilities without design features preventing bear access to garbage, food stuffs, or other bear attractants associated with human activity, may alter bear behavior in such a manner resulting in human-food conditioned bears. These animals present a potential danger to backcountry users and increased risk of DLP bear death. Over most of the project area, increased recreational activities may cause temporary disturbance or displacement of bears; but assuming mitigation measures and design features defined in Chapter 2 are implemented, generally negligible to low impacts are expected.

However, one specific area of concern is related to the proposed action is associated with the Grandview and Hunter Whistle Stops. Activities and facility development associated with these stops would result in increased human activity within land prescribed under the 2002 Forest Plan as a Brown Bear Core Management Area (BBCMA). These areas are a Forest Service contribution to an interagency effort aiming to sustain viable populations of brown bears on the Kenai Peninsula. The brown bear core area helps to reduce the potential for human-bear interactions by prescribing a 750 foot buffer to provide cover for brown bears while feeding on key anadromous fish streams. It also asks for Forestwide standards to limit garbage attractiveness to bears. These recommendations are aligned with the Interagency Brown Bear Study Team conservation assessment. Specifically the two proposed recreational opportunities that intersect lands managed as BBCMA are:

1. Trail Glacier Trail - Leading from the Grandview Whistle Stop to Trail Glacier
The Trail Glacier Trail is proposed for a Trail Class Level 3, implying a trail of moderate development, with an obvious and continuous tread, in a semi-primitive setting. Approximately a half mile of trail intersects the Brown Bear Core Area. Bears are apt to use this trail no differently than other trails on the Forest.

While development of this trail does have the potential to affect Brown Bears, three important factors will greatly minimize the potential effects: (1) only a half mile of the four mile trail goes through the Brown Bear Core Area, therefore trail users are spending a minimal amount of time in the Brown Bear Core Area; (2) the proposed trail is not adjacent to, but separated from Trail Creek by steep and rugged topography, lessening the potential for human-bear interactions; and (3) the section of Trail Creek that parallels the proposed Trail Glacier Trail is classified as a Class III section of stream, or fishless.

2. Rafting on Trail Creek from the Hunter Whistle Stop
This proposed activity would result in a commercial rafting operation using Trail Creek within the BBCMA. Rafting on Trail Creek has the potential to increase potential human-bear encounters and it may also displace bears from important feeding areas. Trail Creek is the primary source of fish protein for brown bears in this core area. Any increase in human presence on this stream will serve to displace bears from utilizing this fish resource. The effects of this displacement occur across time, space and sex. Long-term effects are unknown, but short-term effects depend on amounts of people, and increase in energy expenditure by bears (Rhode et al., in prep.)

The Forest Plan defined 70,360 acres of BBCMA and though the proposed action only directly overlaps a small portion of core area (13,913 acres in the Whistle Stop Project area) it is difficult to define the spatial extent of potential effects related to increased human use. Perhaps most importantly, displacement of brown bears from key feeding areas isolated within the Trail Creek riparian corridor, or any increase in mortalities from DLP would be contrary to the intent of the Brown Bear Core Management Prescription. Therefore, the proposed rafting operation on Trail Creek, where users will be conducting day-long trips completely immersed in the Brown Bear Core Area has the potential to result in a high level of impact on brown bear populations on the Kenai. Conversely, development and subsequent use of the Trail Glacier Trail, where visitors will be spending minimal time in the Brown Bear Core Area and will not be in the area of fish habitat, will result in a lower impact on brown bear populations on the Kenai.

In short, brown bear habitat attributes are not the same throughout the BBCMA. While the BBCMA discourages human access, much of the brown bear activity is expected to concentrate on the anadromous reaches of Trail Creek. The lack of anadromous fish and geographical separation of the Trail Glacier Trail from Trail Creek lessens the potential for human-bear interaction, and increases the acceptability of this activity.

<u>Moose</u>
Increased recreation activity associated with the proposed action may cause isolated events of disturbance of individual animals and could possibly facilitate better access for moose hunting. The direct, indirect and cumulative impacts are assumed to be negligible as there is no data to suggest that any specific aspect of this project will adversely impact population numbers or viability.

<u>Mountain Goats</u>
Given this action is proposed primarily for low elevation sites and resulting facilities do not occur within known important habitat, an increase in recreation users should not significantly impede occasional travel by goats between important habitat areas. Direct, indirect, and cumulative impacts from project implementation on goats or their habitat are considered to be negligible.

Species of Special Interest (SSI)

Bald Eagle
Potential nesting habitat is unlikely due to limited mature cottonwood trees (preferred nesting sites). Assuming mitigation measures defined in Chapter two, we expect negligible direct, indirect and cumulative effects on this species.

Northern Goshawk
Some large trees may be removed during trail and facility construction, which may affect some individual birds, but again, goshawk nesting in this area of Chugach National Forest remains unlikely. The project may displace individual birds (e.g., from foraging areas), but is not expected to impact their population and thus we expect negligible direct, indirect and cumulative effects.

Marbled Murrelet
The project could potentially affect individual birds, although the project area does not contain old growth conifer forests favored for nesting. Direct, indirect and cumulative impacts are expected to be negligible for this species.

Townsend's Warbler
The project could potentially affect individual birds, although the project area does not contain old growth conifer forests. The project may impact individuals, but will have negligible direct, indirect, or cumulative impacts on populations.

Migratory Birds
Overall, the amount of habitat that would be affected is minimal compared to what is available within the project area. The project may impact individual migratory birds by removing nesting substrate during construction, but direct, indirect or cumulative impacts at the population level are expected to be negligible.

Canadian lynx, Gray wolves and wolverine
Hunters or trappers throughout the project area may harvest Canadian lynx, gray wolves and wolverine. This project entails summer use only and thus will not resulting in increased accessibility for winter trapping. We lack specific information that would link aspects of this proposal to specific environmental consequences or project overlap with known, important habitat features for these species. However, it should be noted that generally an increase in human activity to remote areas has potential to displace large carnivores (Claar et al., 1999). As such we anticipate that a low level of direct, indirect and cumulative impacts to these species may result from the proposed action.

Environmental Consequences of each Alternative

Please reference Chapter 1 for the Issue Statements and related measurements/indicators used to determine the environmental consequences of each alternative in this document.

No Action

No harmful effects are expected assuming no action is taken on the proposed project.

Effects of Action Alternatives on Brown Bears

The No Action Alternative, Alternative 3, and Alternative 4 all have a similar level of effect (negligible-low) on bears as they would include limited recreation facilities within the BBCMA. Alternative 2, which includes the Trail Glacier Trail would have a moderate impact to brown bears. The Proposed Action and Alternative 1 would both have a high impact to brown bears with the addition of the rafting operations between Hunter and Trail Creek (Table 3-6).

Another related concern is that the Proposed Action and Alternative 1 may not be consistent with the intent of Forest Plan Management Prescription for this area. Under the Forest Plan it is not the intent of the BBCMA to provide additional recreation opportunities but rather to *"…meet population objectives for brown bears and to reduce dangerous encounters between humans and brown bears."* (Forest Plan 4-54). BBCMA objectives discourage the displacement of brown bears from important food resources and aim to decrease risk of DLP brown bear deaths.

Overall, Alternative 1 and the Proposed Action will have a high potential impact on brown bears, both in and outside of the BBCMA. Perhaps more importantly these options appear to oppose objectives for BBCMA as outlined in the Forest Plan.

Alternative 2 has a moderate potential impact on brown bears, and this impact could be mitigated by design features and mitigation measures defined in Chapter 2.

Alternative 3 contains the Grandview Interpretive Loop Trail only and potential impacts for such a development could be mitigated by design features and mitigation measures defined in Chapter 2. Alternative 4 has no human development at Grandview and would have negligible impact on this species (Table 3-6).

Table 3-7. Grandview and Trail Creek area concerns relative to BBCMA

Alternative	Rafting between Hunter & Trail Creek	Trail in Brown Bear Core Area	Interpretive Loop Trail	Adjacent Whistle Stop Present	Viewing Platform	Impacts to brown bears
No Action						None
Proposed Action	X	X	X	X	X	High
Alternative 1	X	X	X	X	X	High
Alternative 2		X	X	X	X	Moderate
Alternative 3			X	X		Low
Alternative 4						Negligible

Effects for All Other Species Common to all Action Alternatives
The species within this category were determined to experience negligible to low impacts assuming mitigations and design features defined in Chapter two are implemented along with the proposed action. Our concern is focused on impact to populations, not individuals and as such we are comfortable with possible low or negligible effects on species within this group.

One may make the assumption that alternatives which impact the least number of acres will impact the least number of individuals; and that alternatives that contain the least number of user days will have lessening degrees of overall effect. However, the distribution of the individuals in the population may not be equal across space and time and we are not comfortable making the above assumption. We lack specific information regarding potential disturbance impacts resulting from the range of alternatives surrounding the proposed action and as such cannot reliably estimate species, specific impacts for each of the alternatives.

Summary of Direct, Indirect, and Cumulative Effects
Overall, direct effects to habitat from trail construction and facility construction activities are low-negligible in all alternatives, for all species, except brown bears which may be high depending on the alternative chosen. Consideration of potential impacts to brown bears should be taken seriously. The Forest Service partners with the USFWS, NPS and ADF&G to promote a healthy population of brown bears on the Kenai Peninsula. Important objectives of this cooperation are (1) to provide bears with refuge from human generated displacement and (2) decrease DLPs.

Outside of brown bears, indirect effects from recreation are not expected to be substantial. Cumulative effects include additional habitat loss, additional disturbance to wildlife, and reduction of habitat quality, as recreation and development increases across the forest over time. Positive cumulative effects

also include increasing awareness of wildlife and habitat needs, as watch-able wildlife, interpretation and education increases with new opportunities over time.

Possible cumulative effects specific to brown bears and the BBCMA include:

1. Commercial recreation leasing on State Land at Grandview. Development of a Whistle Stop at this site may encourage the State to develop lands at this Whistle Stop location, and encourage more people into the Brown Bear Core Area.

2. Increased visitation to the brown bear core area and rafting on Trail Creek is likely to raise the opportunity for various outfitting and guiding ventures, including rafting and bear viewing. This may contribute toward displacing brown bears from the brown bear core area.

Hydrology

Affected Environment

The proposed Whistle Stop project lies within the Placer and Trail River watersheds. These are large glacially sculpted valleys on the Kenai Peninsula with elevations ranging from sea level to 6500 feet and widely varying climate, landforms, and hydrology. This area receives about 30 to 60 inches of annual precipitation, with up to 140 inches falling annually in the high-elevation glaciated areas of these watersheds (USDA Forest Service, 1982; Western Regional Climate Center, 2005). September and October generally receive the most precipitation, and winter months receive more precipitation than summer months. Early May snowpacks average about 77 inches at Grandview and exceed 100 inches in the high-elevation glaciated areas to the east (USDA Natural Resources Conservation Service, 2005).

Landforms in the Whistle Stop project area were primarily shaped by Pleistocene glaciation and post-glacial fluvial erosion during the Holocene. Glaciers currently cover about 20% of the Placer and Trail River watersheds, including the Spencer, Bartlett, and Trail Glaciers. These glaciers are all receding. Spencer Glacier has receded about 1.5 miles since its early 20th Century terminus, resulting in the formation of Spencer Lake at its terminus within the last 55 years.

Rivers and streams in the project area are primarily large glacial rivers draining active glaciers, or small, high gradient streams draining steep valley sides. Low gradient floodplain channels also exist in the lower valley floors. The glacial systems are dynamic, with high sediment transport rates and braided channels. As a result of the formation of Spencer Lake and its capacity to capture glacial sediment, the Placer River at the Spencer Lake outlet and downstream of the railroad bridge has transformed from a braided outwash channel to a single

meandering channel. The terminal moraine deposit at the lake outlet provides stability for the Placer River channel, although channel migration is occurring on the outsides of the meander bends. The large alluvial fan from the upper Placer River carries high sediment loads and maintains the outlet elevation of Spencer Lake. The gravel and cobble banks of the Placer River are very susceptible to erosion if disturbed. Because of glacial recession, icebergs have become less numerous in Spencer Lake, causing increased bank erosion from wind-driven waves on the west end of the lake. The active channel of the Trail River near the Hunter Wye is migrating west, threatening the railroad tracks despite ongoing efforts to artificially direct the flow away from the railroad.

Palustrine wetlands are widespread throughout the valley floors of the Placer and Trail River Valleys, including the area around Luebner Lake. Small palustrine wetlands are also found scattered in the uplands and upper valleys of the project area. Floodplains are present in the Placer and Trail River valley floors, as well as the area west of Spencer Lake and along the lake outlet. These areas experience frequent flooding.

Streamflows in the larger rivers of the project area are controlled by glacial melting, with peak flows occurring between late June and early August and a potential for high magnitude floods in the summer and fall. Non-glacial streams, mostly on the west side of the project area, generally peak in June with less severe floods. All streams in the area can experience high magnitude, short duration floods during fall rainstorms. Water quality in streams and rivers along the proposed trail route is relatively pristine, with few influences from human activities or development. Glacial systems such as the Placer and Trail Rivers produce high sediment loads, with turbidities increasing during high flows.

Avalanche hazards exist in many places in the Whistle Stop project area during the winter season from October through April. This trail system will not be managed for winter use, although some trail segments and bridges may be at risk of damage from avalanches.

Environmental Consequences

The proposed Whistle Stop project would have limited effects on water resources and hydrologic processes in the Placer River and Trail River watersheds. Potential limited effects include localized stream bank erosion, damage to wetlands and floodplains, and minor water quality concerns. However, the effects of hydrologic processes on the project can be potentially severe. Frequent flooding, natural channel migration, and avalanches can damage trail segments, bridges, and structures, especially where they are constructed near stream banks or in floodplains. Following regional Best Management Practices (BMP's) (USDA Forest Service, Alaska Region, 1996) in construction and maintenance will reduce the effects of these natural processes on trails and

structures. The “phase-in” approach to development of this project will cause no additional detrimental effects on hydrology or water resources.

Trampling of stream banks near trails and areas of concentrated use can cause soil compaction, loss of riparian vegetation, and increased bank erosion rates, which can lead to channel widening, sedimentation, degraded water quality, and loss of fish habitat. The sensitivity of channels to these impacts can be related to channel type process group (USDA Forest Service, Alaska Region, 1992). The most sensitive channels to human-caused bank erosion along the trail route are the Floodplain, Palustrine, Moderate Gradient Mixed Control, Glacial Outwash, and Alluvial Fan channels. Because Glacial Outwash channels in the project area have high natural migration rates and high sediment loads, the effects of human-caused bank erosion on these channels would be minimal. However, more considerable bank erosion concerns exist along the Placer River just downstream of Spencer Lake, where the trail route runs parallel to the river.

Impacts from the project to floodplains and wetlands would be minimal. Floodplains and wetlands that may be impacted include those at Luebner Lake and Spencer Lake. Potential impacts include loss of riparian vegetation, increased runoff and erosion, and trampling of wetland areas. These impacts will be minimized by following Best Management Practices. Erosion from the effects of concentrated use, including bank degradation, trail surface erosion, and wetland and floodplain damage has the potential to cause slight increases in sediment loads in streams and rivers in the project area. However, these increases would be minimal, especially in many of the glacial systems where sediment loads are naturally high.

Effects of Individual Alternatives

The No Action alternative would have no detrimental effects on water resources over the minimal, localized effects resulting from current use of the area. Each of the action alternatives proposes fewer activities than the Proposed Action, and the environmental effects of these alternatives on hydrology and water resources would be less than those of the Proposed Action. Although the general trail infrastructure remains the same under each action alternative, each of these alternatives would result in less ground disturbance and fewer effects on water resources in the Spencer area than would occur under the Proposed Action. Alternative 3 would greatly reduce concentrated uses and their effects on the Spencer Lake floodplain area. Alternative 1 would also reduce the effects of concentrated uses in this area, but moving facilities to the alluvial fan on the south side of Spencer Lake increases the risk of damage from shifting channels and floods on the active alluvial fan. Overall, each action alternative would have minimal effects on water resources in these two watersheds.

Cumulative Effects – Cumulative effects of this project with other past, present, and future projects and activities in the Placer River and Trail River watersheds are minimal. Multiple uses in the Spencer area could result in increased surface erosion and sedimentation, but these effects would have only small effects on the hydrologic conditions in nearby streams and rivers.

Soils

Affected Environment

Soil is the basic component of the environment; most living things as we know it today depend on the soil for the initial source of nutrients from which most other living things evolve. All renewable resources on the Chugach National Forest depend on the soil, which is considered a nonrenewable resource because of the time it takes for its formation and productivity development.

The Chugach National Forest has used the "National Hierarchical Framework of Ecological Units" (ECOMAP) as the basis for mapping landscapes, soils, and vegetation. The entire project area has been mapped at the Landtype Association level and in some places at the landtype level. Map unit descriptions at both of these levels consist of landform, complexes or associations of soils, and complexes of representative plant communities as a result of time and geomorphic process. Since this is a remote area with no road access, most of the soils information for the Whistle Stop project area was inferred from other similar map units for both of these levels.

A field visitation was made to the Spencer Glacier site to look at the proposed trails and campsites, and numerous verbal communications were made with others who visited the Grandview Valley sites for soils verification.

Spencer Glacier site. The trails located in the valley bottom are on glacial outwash gravels and sands. The soil is sandy-skeletal (greater than 35% gravel and cobble in a sandy matrix). It is well drained, deep (greater than 40 inches to water or bedrock), and well suited as a base and for material for trail construction. This soil does not have any binding silts or clay, so it is erodible by water moving fast enough to transport sand, gravel, and cobbles from either the Placer River or waves from the lake during periods of high water. Vegetation is the only natural protection the soil has from erosion, via surface protection from the plant cover and subsurface protection through binding from the plant roots. The soil on the terraces is the same as those on the outwash plains. However, the terraces are located from 5 to 20 feet above the lake and are less susceptible to erosion resulting from floods. High cut banks along the Spencer River have between 5 and 10 feet of exposed soil which is not anchored by roots and is actively eroding. This soil is very susceptible to erosion from foot trampling by people on the edges of steep cut-banks not protected by vegetation. These soils are young and have yet to develop a productive, nutrient rich, organic surface layer, hence they have low productivity. The present plant cover consists of

pioneer species, which are necessary for the natural succession of more advanced plant communities, and increased soil productivity.

Soils on the glacial moraines are loamy and loamy-skeletal (greater than 35% coarse fragments), with variable amounts of rock fragments ranging in size from less than one inch to greater than two feet in diameter. These soils provide a good base for trail construction as long as there is enough material to fill in the matrix between the larger rocks. Trail surface material is necessary, and proper trial construction techniques must include drainage to minimize surface erosion on slopes. The moraines where trails are proposed have a conifer forest plant community and have a reasonably thick and productive organic layer.

The subalpine soils are mostly shallow (less than 20 inches deep), skeletal (greater than 35% coarse fragments) loams and silt loams over a compact glacial till or bedrock. This impermeable till or bedrock restricts water drainage resulting in soils with a higher moisture content and a higher portion of wetlands. Therefore, trails must be located on the best drained soils and be constructed using techniques that are appropriate for moist soils. The productivity of these soils is representative of typical subalpine soils with an advanced successional level of plant communities.

Grandview Valley: This valley is higher in elevation than the Spencer Glacier area and is covered by snow for a large portion of the year from both normal precipitation and avalanche. Most of the trails are located along the foot slopes with some on the lower parts of the side slopes and in the subalpine. The soils on the foot slopes have a loamy-skeletal texture, are moderately deep (20 to 40 inches) to deep (greater than 40 inches), and are somewhat poorly drained to well drained depending on the location. The soil on the footslopes will have higher moisture content than those in the Spencer Glacier area because they receive significant ground water from the above slopes. The soils and sites on the foot and side slopes are exposed to disturbances from soil creep, rolling rock, and avalanches. Good location and proper trail construction techniques can mitigate these limitations. Much of the valley-bottoms will have wet soils because of poor drainage due to either bedrock, impermeable soil, or beaver dams that have created ponds and marshes. These soils are vegetated with species representative of moderate to late successional plant communities, typical to subalpine climates and the included disturbances. Hence, the productivity of the organic soil layer is fairly good. The subalpine soils will be similar to those in the subalpine described in the Spencer Glacier soils.

Environmental Consequences of each Alternative

Direct and Indirect Effects – The major direct effect on the soil resulting from the implementation of this project is the elimination of all soil productivity within the trail tread and at the campsites. All of the coarse texture soils on the floodplains and river terraces are young and have little nutrient development and hence, there will be little reduction in soil productivity. The older soils in Grandview Valley that have a significant plant cover will have a proportionally greater loss in productivity where trails and campsites are developed. The effect is still minimal because of the small area that will be disturbed from development in context to the entire area.

The major indirect effect will be changes in the soil nutrient content resulting from the treatment of human waste. Construction of pits for out-houses and other sewage treatment facilities will disturb the soils physically. Proper installation of the sewage facilities that rely on natural decomposition, although minor, may provide additional nutrients for biological growth and enhance the productivity of the soils immediate to the outhouses. Excessive trampling of the organic soils in fens (moss dominated wetlands) and the area adjacent to camp sites by people venturing off the hiking trails and out of the established camp sites will kill the plants and expose the soil to compaction, rutting, and erosion.

The soils direct and indirect effects will be in proportional to the extent of the activities proposed for each alternative. Hence, the Proposed Action will have the greatest negative effect on the soil productivity, with Alternatives 1, 2, 4 and 3 having less effect respectively because of fewer proposed facilities.

Cumulative Effects – The cumulative effects will be the result of the more miles of trails and acres of campsites, which is highest for the Proposed Action, and generally decreasing with Alternatives 1, 2, 4, and 3 respectively. As analyzed for the Revised Land Management Plan, recreational development has the largest negative effect on the soil of any other activity on the Chugach National Forest. The Revised Land and Resource Management Plan (USDA Forest Service, Chugach National Forest, 2002) and Forest Service Policy (FSM, R-10 Supplement No. 2500-92-1, 1992) specifies that no more than 15 percent of the soils may be detrimentally disturbed throughout a project area which for this project includes the Placer River and Trail River valleys. This project proposes considerably less than 15 percent disturbance; therefore, it meets these requirements. This effect can be magnified greatly, however, when trails and campsites lead people to fragile stream banks and lake shorelines.

Vegetation

Affected Environment

Non-Native Plants

To date, large populations of non-native plants have not been observed outside of areas directly affected by human-caused disturbance within the Kenai Mountains. Within the project area, non-native plants are concentrated along the railroad corridor, the railroad siding area at Spencer, and around the mine site at Spencer. Common weed species found here include: *Linaria vulgaris, Matricaria discoidea, Plantago major* var*. major, Poa annua, Poa pratensis, Taraxacum officinale,* and *Trifolium hybridum.* Since the project is directly tied to the railroad, the development and use of the Whistle Stop trails and facilities would likely result in the spread of non-native plant species into areas that presently lack such species.

Region 10 Sensitive Plants

The project area supports habitat for nine Region 10 sensitive plant species: *Aphragmus eschsoltzianus, Arnica lessingii* ssp. *norbergii, Carex lenticularis* var. *dolia, Draba kananaskis, Isoetes truncate, Ligusticum caldera, Papaver alboroseum, Romanzoffia unalaschcensis,* and *Stellaria ruscifolia* ssp. *aleutica.* Field surveys for this project found *Carex lenticularis* var. *dolia* in the vicinity of the proposed project. Specifically, a specimen was collected along the edge of a mostly dry tarn (in tarn) on 8/24/2005 in the alpine tundra zone above the terminus of Spencer Glacier. The population was located near the proposed Spencer overlook trail and cabin site. It is likely this species occupies similar habitats throughout the area. Additionally, similar looking sedges were noted in the Grandview area; however, plant phenology was a little advanced to identify them.

Environmental Consequences

Both for Non-Native Plants and for Region 10 Sensitive Plants, the potential for a phase-in approach to project development does not change the effects described below.

Non-Native Plants

No Action Alternative: Under the No-Action Alternative, existing populations of non-native plants would likely continue to persist and spread into surrounding areas, especially in the absence of an aggressive eradication program.

Action Alternatives: All action alternatives have the potential to introduce and increase spread of non-native plants throughout the project area. Direct effects would result from actual construction activities while indirect effects would result from increased human use.

Direct Effects – Weeds would likely be introduced from seeds attached to equipment and material such as contaminated gravel brought in for construction activities. Newly disturbed ground is also an ideal bed for many non-native plants to become established, especially if seed sources are nearby. Greatest potential for weed introduction and spread would come from construction in or adjacent to areas already infested with non-native plants, such as the Whistle Stop stations adjacent to the railroad corridor. Existing non-native plants from the railroad corridor could easily spread to newly disturbed ground around the Whistle Stop stations.

Indirect Effects – The implementation of any action alternative would likely increase human use in the area, which in turn would increase the potential for weed introduction and spread. Previous surveys have shown that most non-native plants are located in areas with human use. As more and more people travel through the area, they carry the risk of bringing in weed seeds attached to their clothing or shoes. In this way, seeds are transported along the trail system, near cabin and campsite locations, and other developed sites.

Cumulative Effects – Other existing or reasonably foreseeable future projects include the Alaska Railroad, Outfitter/guide special uses, the Johnson Pass Trail, the Iditarod National Historic Trail, Hut-to-Hut project, and planned mineral materials development at Spencer. The Whistle Stop project could add up to approximately 61 acres of additional ground disturbance where non-native plants could become established. Spread into undisturbed areas would likely be very slow since non-native plants are generally very rare in natural habitats.

Region 10 Sensitive Plants

No Action Alternative: The No Action Alternative would have no effect on the nine species or their habitat with the exception of impacts associated with existing activities such as the railroad, mineral extraction, and rafting outfitter/guide activities.

All Action Alternatives

Direct Effects – Direct effects would result from construction activities that would modify or destroy potential habitat or any known or unknown populations of sensitive species. Although proposed activities may impact potential habitat, direct impacts to sensitive plant populations would be rare. Only the *Carex lenticularis* var. *dolia* has been noted in the vicinity; however, the occurrences of *Carex lenticularis* var. *dolia* would not be on the direct path of the trail, but would be in the general area along the edges of alpine wet areas and very slow moving streams. Therefore direct impacts to this species would likely be minimal to none. The other species were not located during field surveys.

Indirect Effects – Indirect effects would come from trampling of potential habitat by increasing number of recreationists. Developments through open alpine areas would be of greatest concern since these areas are conducive to cross-country travel (off of developed trails) and alpine sites contain habitat for the

greatest number of R10 sensitive species in the project area (five species), including the *Carex lenticularis* var. *dolia*. Indirect effects would also come from non-native plants that compete with native plants for available habitat. As presence and spread of non-native plants increase, so do negative impacts to R10 sensitive species and their habitats.

Cumulative Effects – The Whistle Stop project could add up to approximately 61 acres of additional ground disturbance. Across the Kenai Peninsula portion of the Chugach National Forest, there are vast areas of potential habitat (over one million acres). Cumulatively, the potential loss of another 61 acres would not make a measurable effect to sensitive plants when over one million acres of potential habitat exist on the Kenai Peninsula.

Determination of Effects – Because potential and occupied habitat occurs in the project area, there is potential that sensitive species and habitat may be impacted by any action alternative. However, mitigation measures should minimize these impacts. In addition there are large areas of undisturbed habitat across the Kenai Peninsula. The proposed alternatives would only contribute up to 61 additional acres of potential habitat loss. This loss would not lead to any measurable effects to sensitive plants. Therefore the final determination of effects for all nine sensitive species is that the proposed activities may impact individuals or habitat but are not likely to contribute to a trend toward federal listing or cause a loss of viability to the population or species.

Fisheries

Affected Environment

The proposed Whistle Stop trail system and associated infrastructure would exist in the Placer River and Trail Creek watersheds. These watersheds contain 107 miles of Class I streams (streams containing anadromous fish), 24 miles of Class 2 streams (streams containing only resident, nonanadromous fish), and 107 miles of Class III streams (streams with no fish). The primary water bodies in these watersheds include Placer River, Skookum Creek, Trail Creek, Spencer Lake, Luebner Lake, and Trail Lakes. Both anadromous and resident fish species important to recreational and commercial fishing are found in these watersheds including sockeye salmon (*Oncorhynchus nerka*), chum salmon (*O. keta*), pink salmon (*O. gorbuscha*), coho salmon (*O. kisutch*), chinook salmon (*O. tshawytscha*), and Dolly Varden char (*Salvelinus malma*) (Browning, 1976; Krueger, 1977; Johnson et al., 2004).

Aquatic habitat in the project area is dynamic ranging from productive clearwater ponds, lakes, side channels, and sloughs important for spawning, rearing, and overwinter survival to less productive silt-laden primary channels and high gradient, highly contained upper valley channels characteristic of the smaller tributaries. Aquatic habitat surveys conducted by Browning (1976) and Krueger

(1977) found that the larger primary channels of streams in the Placer River drainage provide little spawning habitat for anadromous fish due to large amounts of glacial fines, large cobble, and boulder substrates. However, these channels serve as migrational corridors for spawning adults and provide juvenile fish with excellent rearing and overwinter habitat during low flow periods (late fall through spring) when suspended sediment loads are low.

Luebner Lake and its inlet stream support coho and sockeye salmon and Dolly Varden char. Although the lake is relatively small (26 acres) it is the largest clearwater lake in the Placer River watershed and most likely provides the best aquatic habitat for sockeye salmon. A Whistle Stop station and trailhead is being proposed at the outlet of Luebner Lake and care should be taken to design infrastructure in a manner that reduces impacts to this important aquatic habitat.

Endangered, Threatened, and Sensitive Fish Species

Several of the fish species present in this watershed are threatened or endangered in parts of their historical range. However, none are federally listed as threatened, endangered, or sensitive in the Placer River and Trail Creek watersheds. Nonnative fish species have not been introduced for management purposes in the project area and none have been located as a result of illegal introductions.

Environmental Consequences

Direct and indirect effects on the fisheries resource from the proposed action and all alternatives are described in the following section. Additionally, cumulative effects for all past, proposed, current, and reasonably foreseeable activities in the project area are also addressed. Because aquatic (fish) habitat is closely associated with the hydrological character and condition of a watershed and an effects analysis for hydrology and water resources in the project area has accurately addressed potential impact to aquatic habitat, this analysis will focus primarily on the biological effects to fish species in the project area.

Effects Common to All Action Alternatives

Fish Passage - In addition to the importance of preserving healthy riparian areas and natural stream processes to sustaining healthy fish populations, maintaining unidirectional fish passage wherever trails cross fish-bearing streams or wetlands is paramount. Improperly designed and installed culverts can compromise or eliminate fish and other aquatic species from upstream reaches by creating velocity barriers, shallow flow depths, length of run with no resting areas, or excessive jump heights (Belford and Gould, 1989; Clancy and Reichmuth, 1990; Castro, 2003). Fragmentation of previously accessible stream reaches can result in a loss of total available habitat and reduced population size (Vinyard and Dunham, 1994), loss of range for anadromous and resident fish, reduction of marine derived nutrients in the form of fish carcasses in upstream reaches, and

altered upstream community assemblages (Robison and Beschta, 1990). Additionally, retaining stream connectivity is critical during the onset of winter to allow fish in smaller stream reaches to migrate to better overwintering habitat in sloughs, ponds, and deeper primary channels (Cedarholm and Scarlett, 1981; Peterson, 1982).

Design and construction of the proposed and alternative trail routes will include many stream crossings. However, very few of the crossings will be associated with Class I (anadromous) or Class II (resident) streams. Bridges or elevated boardwalks are planned for the three anadromous and three resident streams that the proposed trail routes cross. However, because design for the trails has not been finalized, stream crossing structures may change. In any case, upstream passage will be maintained on all fish-bearing streams.

The greatest area of concern will likely be the section of trail crossing wetlands from the Luebner Lake Whistle Stop to the adjacent hillside east of the wetlands. If this section of trail is not designed and constructed correctly, upstream access to valuable spawning and rearing habitat may be compromised leading to detrimental impacts to fish stocks that use Luebner Lake and its tributaries. Hydrologists, biologists, and engineers will work closely to develop effective stream crossings that avoid impacts to the fisheries resource and aquatic habitat and design monitoring plans that will assure continued unidirectional movement.

Direct and Indirect Fish Mortality – Short-term fish mortality could result during the trail building phase of the Whistle Stop Project and all action alternatives. Direct mortality could occur as a result of trail building equipment crossing streams and excavating in the stream for placement of bridges or culverts. Indirect mortality could be the result of elevated sediment loads caused by instream construction. However, the Forest Service has a Memorandum of Understanding with the State of Alaska that allows instream work only during certain times of the year. Currently, this window of opportunity is from May 15 through July 15 of each year. This window allows time for the previous year's fry to emerge from gravel and cobble substrate and ends before the majority of spawning adults arrive in freshwater from the marine environment. Therefore, significant direct and indirect mortality to fish species as a result of project construction is not expected to occur.

Sportfishing - Luebner Lake and its tributaries support both coho and sockeye salmon and Dolly Varden char. As mentioned previously, this lake is essential for supporting populations of sockeye salmon in the Placer River watershed.

An indirect impact of the Whistle Stop project to the fisheries resource at Luebner Lake may be increased sportfishing pressure by anglers dropped off at the Luebner Whistle Stop station. Currently, adult salmon tend to congregate and hold at the confluence of Luebner Lake and the Placer River leaving them susceptible to angling or illegal snagging. This has not been a significant

concern in the past because access to this area is difficult without the use of an airboat or jet skiff during higher flows. Because of this, angling pressure is low and special regulations are not needed to help protect these fish. If angler access is enhanced by the Whistle Stop, impacts associated with sportfishing may be of greater concern in the future.

Currently, fish populations in the project area are managed under Alaska Department of Fish and Game (ADF&G) sportfishing regulations and daily harvest limits. Fishing for salmon in the Trail Creek watershed is closed year round. However, most of the Placer River drainage, including Luebner Lake, is open to sportfishing year-round for all species except chinook salmon. If warranted, special angling regulations could be proposed to ADF&G to help protect adult salmon once they arrive at the outlet of Luebner Lake.

Effects of the No Action Alternative

Under the No Action Alternative, there would be no implementation of the proposed activities. Therefore, no detrimental effects to the fisheries resource in the Placer River and Trail Creek watersheds would occur as the result of no action.

Comparison of Alternatives

Whereas the proposed action and each of the other action alternatives are not expected to have significant impacts on the fisheries resource, the alternatives with the greatest amount of development and ground disturbance would tend to present a higher risk. Overall, the proposed action would have the greatest potential for impacts because it would generate the greatest amount of development and attract a greater number of forest visitors. Each of the other alternatives has a lesser degree of development and therefore would assumedly present less risk to fish species and aquatic habitat in the proposed project area.

Cumulative Effects
Several other past, present, and future projects could affect the fisheries resource in the analysis area. These projects include development of the Iditarod National Historic Trail, Hut-to-Hut proposal, commercial recreation leasing on State land at Grandview, outfitter/guide use and mineral extraction at Spencer. Increased recreation use in the area and development of recreation facilities could have a small cumulative effect on fish habitat, but should not result in a cumulative detrimental impact to the fisheries resource.

Summary of Direct, Indirect, and Cumulative Effects – Overall, direct, indirect, and cumulative effects associated with the proposed Whistle Stop project will be limited and do not create any significant concerns for fish and aquatic habitat in the Placer River and Trail Creek drainages. Additionally, because no listed or sensitive fish species are known to exist in the project area, concerns for this

resource are further alleviated and do not warrant special consideration. However, this analysis has been based on the assumption that associated trails and facilities will be constructed using Best Management Practices described in the Soil and Water Conservation Handbook - FSH 2509.22 (USDA Forest Service, Alaska Region,1996) and the Aquatic Habitat Management Handbook - FSH 2090.21 (USDA Forest Service, Alaska Region, 2001). Implementation of these conservation measures would minimize adverse effects, thus protecting and conserving a sustainable fisheries resource and its ability to contribute to healthy ecosystems. In the event ecological processes are being compromised by the project and associated activities, mitigation efforts to correct the impacts should be a priority.

Heritage

Affected Environment

While historic transportation, mining and settlement activities have impacted the landscape of the region, there is still a potential that prehistoric materials exist within the Whistle Stop project. Alaska Natives were employed as guides, tradesmen, porters and workers for the miners in the region. Additionally, Captain George Vancouver documented the existence of the Portage Pass trail and its use by Native and Russian traders in the region (Vancouver, 1798:115).

Gold claims were first staked on the Kenai Peninsula in the 1880s, but it was not until 1896 that the Turnagain Arm Gold Rush began in earnest. The rapid influx of non-Native people first led to the formation of the towns of Hope and Sunrise, followed by Moose Pass and Cooper Landing. By 1910, placer prospecting was occurring west of Bartlett Glacier and quartz claims were staked near Hunter.

Increased population and the need for goods and services led to the development of new transportation routes and the use of older prehistoric routes. The formation of these routes assisted in expanding human activities. These activities included road houses, homesteads, fox farms, tie hacking activities, trapping, and the establishment of recreation based activities (lodges, big game and fishing services and smaller recreation cabins).

Initial surveys for the Alaska Central Railroad (what would eventually become the Alaska Railroad) began in 1902 and by 1906, the railroad had reached an extremity of 46 miles (Barry, 1997). In 1909, the railroad company was reorganized as the Alaska Northern Railway. This company also went into bankruptcy in 1911, but not before finishing the line between Seward and Kern (71 miles). In 1912, a presidential commission began studying the potential for a future government railroad. The Alaska Engineering Commission, or AEC, was formed and assigned the tasks associated with the survey and construction of the new government railroad. In 1915 the Alaska Northern [Alaska Central]

Railway were purchased by the federal government and rebuilt in preparation for connection with new lines coming south from what would become Anchorage (Wilson, 1982). In 1922, the new railroad was officially named the Alaska Railroad and was fully operational by 1923.

Construction of the railroad in the Placer River Valley began in 1905 with the establishment of the road line. A large winter camp was constructed that year at Tunnel, with an additional camp adjacent to the proposed loop at Mile 54. The camps were established for the construction of two 14° curves, seven tunnels and a number of high bridges over the next couple of years between Spencer Lake and Grandview (Brown, 1975). The construction of the loop district was considered nationally to be an important achievement in railroad engineering. Rehabilitation of the Placer River Valley section of rail line occurred in 1915 with the establishment of the Alaska Railroad. Station gangs from Tunnel, Grandview and Hunter conducted much of this work. In 1951, the Alaska Railroad changed the alignment of the tracks, and stopped using five loop bridges, one snowshed and the largest of the tunnels constructed (Tunnel #1). Many of these structures and the remains of them are now located on Chugach National Forest lands as a result of this realignment through the Loop District.

Historic Properties

There are 53 known cultural sites in the area of potential effect for the proposed Whistle Stop project. One site is on the National Register of Historic Places (NRHP). SEW-00139, Alaska Central Railroad Tunnel #1 (Loop District #1), is a 714' long railroad tunnel with a 235° curve constructed in 1906. Use of the tunnel was discontinued in 1951, when the rail line was re-routed to the east following the receding of Bartlett Glacier. Archeological site monitoring of the tunnel in 2005 found it to be in good condition. Additionally, one trail has been designated a National Historic Trail. The Iditarod National Historic Trail is a historic transportation route used to transport mail and supplies to communities from Seward to Nome during the early mining period, and was one of the first trails in the nation to be congressionally designated a National Historic Trail in 1978.

Of the remaining sites, four have been determined eligible (SEW-00251, SEW-00253, SEW-01007, SEW-01068), and 47 sites are unevaluated.

Environmental Consequences

General Effects

A complete field inventory has not been concluded. At this time, approximately 50% of the project area has been surveyed and inventoried. As a result, the number and extent of heritage resources in the project area is unknown at this time. A programmatic agreement has been developed between the Chugach National Forest and the Alaska State Historic Preservation Officer (USDA, 2006). When the field surveys are completed in 2006, appropriate identification,

evaluation, mitigation and monitoring will adhere to the programmatic agreement to ensure that any effects are mitigated or avoided where possible. A detailed specialist report will be placed in the project record upon completion of the field surveys.

No Action Alternative
Direct, indirect and cumulative effects – Heritage resources will continue to deteriorate, and the documented looting and vandalism currently occurring at one site near Grandview would continue.

Proposed Action, Alternative 1 and Alternative 2
Direct and indirect effects – There will be direct effects to multiple sites at the Grandview area. The Grandview Whistle Stop, Trail Glacier Trail trailhead and Grandview Interpretive Trail trailhead are within known cultural sites or features. Additionally, there is the potential for looting and vandalism with the increase of visitors to these sites. Any effects will be analyzed in accordance with the *Programmatic Agreement between the Chugach National Forest and the Alaska State Historic Preservation Officer Regarding Implementation of the Whistle Stop Project and Associated Historic Properties* (2006).

While the Bartlett Whistle Stop, Bartlett Glacier Trail and Bartlett Glacier Cabin have not been surveyed, they are within a known historic district that is eligible for the National Register of Historic Places. There is the potential for adverse effects. Any effects will be analyzed in accordance with programmatic agreement for the Whistle Stop Project (USDA, 2006).

The proposed developments within the Spencer Lake area will have little effect to heritage resources. The cultural resource in the area can be avoided during project implementation.

There are known sites at Hunter, the connector trail from the Trail Creek Whistle Stop and the existing Johnson Pass Trail. There is the potential for the stop and dispersed camping to have an effect to heritage resources. Any effects will be analyzed in accordance with programmatic agreement for the Whistle Stop Project (USDA, 2006).

With the Whistle Stop project, there is a potential for numerous interpretive and educational opportunities in a region that has had little previous interpretation. There could be a benefit to heritage resources or a reduction of the effects through education, interpretation and monitoring of cultural resources. A list of possible opportunities and topics are located in the Heritage Specialist Report.

Alternative 3
Direct and indirect effects – Alternative 3 would lower any impacts to cultural resources by removing the Hunter and Trail Creek stops. Both areas are historic stops with multiple cultural resources. The potential for heritage resource

impacts would also be lowered with the omission of the Bartlett cabin. While the location has yet to be surveyed, it is within a known historic district that is eligible for the National Register of Historic Places.

Alternative 4
Direct and indirect effects – Alternative 4 would lower any impacts to cultural resources by removing the Hunter, Trail Creek and Grandview stops. All three areas are historic stops with multiple cultural resources located at each stop. By dropping the proposed trails at Grandview, any direct effects to the heritage resources at those locations would be avoided.

Cumulative Effects
Past, present and future projects and activities within the area that may have cumulative effects are listed at the beginning of this chapter.

An increase in use on the historic Johnson Pass Trail could lead to damage caused by a combination of trail upgrades and maintenance. The Iditarod National Historic Trail, the Hut-to-Hut project and the proposed connection of the Trail Creek Whistle Stop all use or connect to the historic Johnson Pass Trail.

The potential for increased development and expansion of commercial recreation services on State of Alaska land within the Grandview area could potentially affect heritage resources. These effects could include damage, vandalism and looting as a result of increased visitation and the expansion of facilities at this location.

Minerals

Affected Environment

Locatable minerals (placer gold) and salable minerals (sand, gravel, and stone) are two classes of minerals that occur in the project area. Leasable minerals (oil, gas, etc) are not known to occur in the project area. There is a high potential for mineral development to occur at Spencer Glacier, and the remainder of the project area has a low potential for minerals activities. At Spencer Glacier, a mineral materials permit was active from 1978 to 1997, and mineral materials were mined during that period. There are valid placer mining claims, located for placer gold, covering the same ground as the previous mineral material permit area.

The stone deposit at Spencer Glacier consists of over 10 million cubic yards and is situated on the north side of Spencer Lake. The deposit is a proven, valuable commodity for large-sized armor stone, riprap, and other construction uses. From 1991 through 1997, it was produced for construction projects around the state and there is substantial and substantiated present interest in the resource.

The Spencer area contains a vast, high quality, sand and gravel deposit. This material has been extracted from a developed gravel pit near the railroad track, and has been used for a number of construction projects. There is substantial and substantiated present interest in this resource, as well.

Placer mining claims have existed since 1984 and occupy about 360 acres. The claims completely overlie the previous mineral material permit area. Gravel has been produced from the placer claims but no placer gold has been produced. There is currently an approved plan of operations for low impact hand sampling across the claim block. If justified by sampling and testing, bulk sampling may follow. Bulk sampling operations would consist of excavation of large samples up to 1,000 cubic yards total, and the use of dump trucks, backhoe/loaders, and large screening and concentrating plants.

Environmental Consequences

No Action Alternative

Direct, indirect and cumulative effects – This alternative would have no detrimental effects on mineral resource development above those already resulting from current use of the area. Presently, no minerals operations are occurring so no impacts are occurring. However, the Forest has approved a (locatable minerals) mining plan of operations for sampling placer gravel, and operations under that approval are expected to begin in 2006. Additionally, a mineral materials sale is being considered and may occur within the next 2 – 3 years, after which mining operations consisting of sand and gravel, and stone quarrying may occur. The current recreational uses will impact placer mining, gravel mining, and stone quarrying to some extent. Mining operations must mitigate visual impacts of their operations, from the permitted raft trips; noise levels will have to be mitigated by timing restrictions on operation of heavy equipment and blasting; operations boundaries (active mining) must be posted and monitored; reclamation activities must consider access for recreational visitors; visitors would be required to avoid active mining operations areas; and coordination would be required with the permitted recreational activities. Use of the main road/airstrip at Spencer is currently shared. If mining operations occur, recreational users and operators may be required to use separate routes. All of the measures stated above results in inconvenience and extra costs for the mining operator.

Proposed Action

Direct, indirect, and cumulative effects – Under this alternative, summer recreation use may increase substantially in the project area, both for day and overnight use. The Proposed Action will not directly affect winter recreation use. In general, the greater the use by recreation, the larger the impact to mining operations. The proposed action would have the most impact to mining operations of any alternatives considered.

The Forest Plan EIS states that there *could be a developed recreational complex (about 50 acres) at Spencer Glacier.* And further that: *"Although the complex and quarry could co-exist side-by-side physically, there would likely be conflicts because the quarry would be considered to be a visual impact to the glacier scene and the natural quiet would be disrupted in the vicinity by blasting and heavy equipment operating at the quarry."*

Negative impacts to mining could potentially take two forms. First, since a mineral materials contract is discretionary, the forest may determine that no permit would be offered because to do so may impact recreational use. Secondly, the contract may be offered but the mitigation measures to satisfy recreational users could preclude an economic mine. It may be feasible to offer a minerals sale with mitigation measures that sufficiently reduces impacts on recreation and allows for economic mining.

Locatable minerals operations are not discretionary and if placer mining occurs, it could have the same impacts that a minerals materials operation would have. The Forest can only impose reasonable mitigation measures and may not deny a reasonable [locatable] mining operation.

Alternative 1

Direct, indirect and cumulative effects – This alternative was developed to address the issue of potential conflict between recreation and mining activity in the Spencer Lake area. All proposed recreation facilities in the Spencer Lake area would be located south of the Spencer Lake outlet, outside the mineral material site area and outside of the active mining claims. The Spencer Whistle Stop platform would be included in this alternative as well as a trail from the platform that runs east/northeast through the mining claims and through the materials site area. In order to minimize conflicts with minerals development and mining, this trail should be relocated to run along the river and then along the north side of the lake, then turn north to connect with the Glacier Discovery Trail at the cabin site.

Although the Forest Plan allows for recreation facility development at Spencer Glacier, the location is not specific to the mineral materials site, and in fact could be located outside of the mineral materials and mining claims areas.

Alternatives 2, 3 and 4

Direct, indirect and cumulative effects – Alternatives # 2, #3, and #4 would have less impact to mineral development and mining operations than the Proposed Action (due to fewer proposed facilities in the Spencer Lake area), but more impact than No Action and Alternative 1 as the facilities that are proposed will be located in the same general area as potential mining operations.

Environmental Justice

In accordance with Executive Order 12898, all action alternatives were assessed to determine whether they would have disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low-income populations. This assessment included any programs, policies, and activities being considered. Public meetings were available to all people in and near the project area and advertised through the local media, newspaper, TV scanner, and local radio stations. See Chapter 1, Public Participation. Implementation of the action alternatives will not cause adverse health, social, or environmental effects that disproportionately affect minority and low-income populations.

Unavoidable Adverse Impacts

Implementation of any action alternative may cause some adverse environmental effects that cannot be effectively mitigated or avoided. Unavoidable adverse effects often result from managing the land for one resource at the expense of the use or condition of other resources.

Irreversible and Irretrievable Commitment of Resources

Irreversible commitments are decisions affecting non-renewable resources such as soils, wetlands, unroaded areas, and heritage resources. Such commitments are considered irreversible when the resource has deteriorated to the point that renewal can occur only over a great period of time, at great expense, or not at all. The destruction of an archaeological site is an example of an irreversible commitment. No irreversible effects are expected to occur as a result of this project.

Irretrievable commitments represent opportunities foregone for the period during which resource use or production cannot be realized. Such decisions are reversible, but the production opportunities foregone are irretrievable. Recreation use from this project will result in no irretrievable commitment of forest resources.

Chapter 4: Draft Environmental Impact Statement and Response to Comments

Public Involvement

We have used public involvement, and integrated it at numerous project stages, to assist with identification of issues for this project. It has been helpful in developing the alternatives and helped us make a more informed decision regarding development of the Whistle Stop project on the northern Kenai Peninsula. Public meetings, Federal Register notices, newspaper releases, and group meetings were used to solicit input for this project.

The proposed action has been listed in the Chugach National Forest Schedule of Proposed Actions (SOPA) beginning in April 2005. Initial public scoping began with publication of a Notice of Intent in the Federal Register on May 16, 2005. A notice describing the proposal, outlining the NEPA review process, and inviting comment was distributed to media outlets, agencies, groups and individuals. A total of six public meetings were held in Anchorage, Seward, Girdwood, Moose Pass, Cooper Landing and Soldotna. During the 30-day scoping period, 12 comment letters or emails were received. Three additional comments were received after the 30-day scoping period had expired.

A Draft EIS was released to the public on January 27, 2006. Twenty comment letters were received from individuals, organizations and agencies. Responses to comments are shown below. Each comment and response is coded so they can be referred to in other comments.

E1: Economics – cost of project to build and maintain

Comment: Commenters expressed concern with the financial impact of the project on the Chugach National Forest, both to build and maintain.

Response: NEPA requires the disclosure of effects on the human environment, not the administrative costs of implementing or managing the Whistle Stop project. The task for the agency is to weigh the economic and other benefits of the project against its *environmental costs*. The Forest Service is not required to consider, as part of the NEPA process, the administrative costs of preparing EIS or project implementation.

However, the Whistle Stop Project is designed with cost recovery in mind. Through a combination of revenue sharing with the Alaska Railroad and revenue obtained through permit fees, the proposed infrastructure should not reduce the operations and maintenance funding for the existing recreation infrastructure on the Chugach National Forest.

E2: Economics – user fees

Comment: Concern was expressed that the service would cost too much and that user fees would be implemented. There is concern expressed that the Forest Service would rely on user fees which would ensure constant pressure to expand the project and increase use to the detriment of the "backcountry."

Response: It is expected that the Whistle Stop project will use the standard R10 fee structure for camping and cabins. Permit fees may be implemented, which will offset the operations and maintenance costs related to operation, eliminating the impact to the Forest maintenance budget. In terms of the cost of accessing the area, the ticket price will be set by the Alaska Railroad. The US Forest Service and Alaska Railroad Whistle Stop Project Business Plan identifies a "willingness to pay" of between $75 and $95 for round trip access.

At this time, there are no reasonably foreseeable plans to expand the scope of the Whistle Stop project or to build facilities that are not described in the EIS. If additional facilities are proposed for the project area, a separate NEPA analysis will be conducted.

E3: Economics – cost of each alternative

Comment: The costs of each alternative should be included along with the potential benefits of each alternative.

Response: NEPA requires a cost benefit analysis only when it is relevant to the choice among environmentally different alternatives and serves as an aid in evaluating environmental consequences (40 CFR 1502.23). Although the EIS contains a table outlining the cost of each alternative (page 3-10), this table was included to provide the public with the scope of investment for the project and is not related to environmental consequences.

E4: Economics – economic impacts to local communities

Comment: The DEIS fails to address the economic impacts of the various alternatives on the local economy – either positive or negative. No economic impact studies were conducted within the communities nearest the project area to determine these potential negative impacts, but instead with focus groups from Anchorage and Seattle.

Response: Economic effects to local communities were not identified as a significant issue in the EIS because the economic effects of the project to local communities are not expected to be substantial (EIS page 1-8 through 1-10). The focus groups undertaken for this project were used to assess, among other things, whether there is an adequate demand for the services contemplated

under the alternatives, not to assess the economic impacts of the project to local communities.

E5: Comment – Economic development in south end of project area

Comment: With no planned Whistle Stop at Moose Pass, there is the potential to remove business income from the communities in the south end of the project area. Commenters state that if the project goes forward, the Forest Service has a duty to ensure access from the south end of the project area and enhance community economic benefits. A stop at Moose Pass would also give residents and visitors the ability to access the Whistle Stop area from the south.

Response: Whistle Stop Project planning has always identified the need to develop both backcountry and community Whistle Stops. As stated in the joint Forest Service-Alaska Railroad Business Plan (pg. 6), the initial phases of the project include development of backcountry stops through 2009, with the remaining community stops, including Moose Pass, to be added after 2009.

E6: User demographics

Comment: The FEIS should examine further the demographics of the population expected to actually use this service, as this is necessary to determine whether the project will meet its additional stated purpose of dispersing people and relieving congestion in other recreation areas on the Kenai Peninsula.

Response: The joint Forest Service – Alaska Railroad Business Plan provides a detailed market analysis, not only of visitor demand, but also the market segments that are likely to utilize the Whistle Stop service. Out of the total pool of potential visitors, 80% are expected to be day trip users, consisting primarily of out-of-state visitors; 20% of visitors are expected to be overnight trip users, consisting primarily of in-state visitors. Appendix F of the Whistle Stop FEIS displays the projected distribution of use throughout the project area, and exhibits that use will be distributed and dispersed in accordance with Forest Plan Management Area Prescriptions. Additionally, visitors now accessing the Whistle Stop Project area will reduce the congestion felt at other recreation sites along the Kenai Peninsula.

E7: Analyze financing of the project in the context of the CNF budget

Comment: Commenter is concerned with the financial impact of the project on the Chugach National Forest. Suggests that the project is not approved until a supplementary DEIS is released analyzing the economics and financing of the project in the context of the CNF budget.

Response: NEPA requires the disclosure of effects on the human environment, not the administrative costs of implementing or managing the Whistle Stop project. The task for the agency is to weigh the economic and other benefits of the project against its *environmental costs*. The Forest Service is not required to consider, as part of the NEPA process, the administrative costs of preparing EIS or project implementation.

E8: Speculative economic analysis

Comment: The economic analysis involved an awful lot of speculation.

Response: The joint Forest Service – Alaska Railroad Business Plan was developed by Independent Resources, a Forest Service Enterprise Team. The Enterprise Team consists of professionals with experience in market analysis, focus group coordination and financial analysis. This plan concludes that the project will be economically self-sufficient and recover all operations and maintenance costs.

G: General

G1: Over-exploitation of National Forests

Comment: Commenter is concerned with the over-exploitation of National Forests.

Response: Forest Service specialists evaluated all alternatives, including the no-action alternative. Development of National Forest System (NFS) Lands is guided by the Forest Plan and all alternatives are consistent with the Forest Plan.

G2: Concern expressed for public safety

Comment: Commenter is concerned with the safety of the general public – they won't have the same safety procedures as the Forest Service crews do.

Response: Backcountry use throughout the Whistle Stop project area will be managed as all other Forest Service backcountry sites; no special precautions are taken on trails.

G3: Clarification on wording in DEIS

Comment: There is need for clarification on particular wording in the DEIS.

Response: Editorial concerns are addressed in the Final EIS.

G4: Hut-to-Hut planning should not be in this EIS

Comment: No resources or planning should be invested in trail construction to the proposed Hut-to-Hut system. It is a different project and should be in that Environmental Impact Statement.

Response: The proposed Center Creek Pass Trail which leads from the Spencer Whistle Stop to the crest of Center Creek Pass has been preliminarily surveyed to determine route feasibility. The will be no additional planning invested in this trail route until a decision has been reached on the Hut-to-Hut Project Environmental Impact Statement.

G5: Viewing platforms are not compatible with the backcountry viewshed

Comment: Viewing platforms are frontcountry in nature and are not appropriate in the backcountry. Both platforms and elevated boardwalk are not compatible with the backcountry viewshed.

Response: All of the recreation infrastructure that is included in the Selected Alternative is approved under the Management Area Prescriptions in the Forest Plan. Through analysis of the proposed recreation facilities and evaluation of public comment, we have developed a “minimum structure necessary” philosophy to guide project implementation. Please reference page 3 of the Record of Decision which discusses the effects of viewing platforms on the project viewshed.

The elevated boardwalk for the Luebner Lake area is proposed for resource protection measures, as construction of a trail with traditional native tread is impossible in this location.

G6: Credentials of Forest Service contributors

Comment: Display qualifications of contributing individuals from the Forest Service, both Interdisciplinary Team Members and those identified in the Final EIS contributing personal communications.

Response: See Chapter 5 of the FEIS.

G7: Project depends on Alaska Railroad profitability

Comment: This project depends entirely on the Alaska Railroad being profitable. Should ridership fall to the point of being unprofitable, will the Alaska Railroad guarantee that it will continue to provide access at proposed levels? There is no formal contract concerning this. Elimination of service would hurt taxpayers who paid for recreation infrastructure.

Response: The Forest Service and Alaska Railroad have entered into a Memorandum of Understanding (signed in 2004), detailing joint commitment to providing access for recreational opportunities on Forest Service land. Both partners have an interest in meeting the growing public demand for adventure-based travel and related outdoor recreation opportunities and doing so in a sustainable manner.

G8: Project needs private companies for sustainability

Comment: Commenter does not feel that the project has the ability to stand on its own without the presence of private guiding companies.

Response: Currently, the majority of visitors who access the project area do so through the services of an outfitter and guide operating in the Spencer area. The main reason for this is due to the fact that the Alaska Railroad will not allow the general public to exit the train until defined, developed Whistle Stops are constructed. Once the Whistle Stops are in place, and the Forest Service creates an infrastructure of trails, we expect a large number of users to utilize the railroad independent of outfitter and guide services.

G9: Paying a for-profit corporation to access National Forest facilities

Comment: Seems inappropriate that visitors will have no choice but to pay a for-profit corporation for access to NF facilities built and paid for with taxpayer dollars.

Response: While access is difficult, there will be ways that the general public can access National Forest facilities that are developed through this project. This access may be by foot (cross-country travel), air or water. Additionally, accessing these National Forest recreation facilities by paying the Alaska Railroad is not unlike accessing Forest Service public-use cabins in Prince William Sound. It is extremely difficult for individuals to access these cabins, and the majority of users reach these sites by paying for-profit businesses.

G10: Concern with the impact to Forest Service public image

Comment: Commenter expressed concern with the impact to the Forest Service public image due to a perceived special interest. It seems like the Forest Service is working with a small segment of private companies to the disservice of the public. The project should be funded not by the taxpayers, but by a cooperative effort between the private companies involved and the Alaska Railroad, as they seem to be the “big winners” here.

Response: Providing Whistle Stop services to this large area of the Chugach National Forest, the Forest Service will be providing an immense public benefit. Currently, the Alaska Railroad does not allow the general public to exit the train –

and they will not allow this to take place until developed Whistle Stops are constructed. Furthermore, at this time the Railroad will only allow certified outfitters to take visitors into the Chugach National Forest. Therefore, with each Whistle Stop that is developed, we will be opening up the National Forest to visitors, allowing for them to access the area without having to rely on the services of outfitters and guides.

G11: Favors the no-action alternative

Comment: Commenter expresses the opinion that they favor the no-action alternative.

Response: The Selecting Official (Forest Supervisor) evaluated all of the identified alternatives (including the no-action alternative) against the purpose and need for the project, major issues raised by the public and Chugach National Forest management direction. The no-action alternative did not adequately address the purpose and need for the project, nor would it meet the management direction for the project area.

G12: Whistle Stop at Trail Creek

Comment: Commenter would like to see a final decision that includes a stop at Trail Creek.

Response: The Selecting Official (Forest Supervisor) evaluated all of the identified alternatives against the purpose and need for the project, major issues raised by the public and Chugach National Forest management direction. A Whistle Stop at Trail Creek was included in the Selected Alternative as it was determined to meet the purpose and need for the project and the management direction of the Chugach National Forest.

G13: Ensure lodging demand is adequate

Comment: Commenter wants to make sure that the Forest Service ensures that lodging demand truly is high enough to sustain both the Hut-to-Hut system and future lodging associated with the Whistle Stop proposal.

Response: The overnight accommodations identified for the Whistle Stop Project do not include facilities comparable to those identified in the Hut-to-Hut proposal, therefore, it is not expected that the two distinct types of lodging will be competing for users. In terms of the public-use cabins that are identified in the Whistle Stop Project, use figures display a need for additional cabins on the Kenai Peninsula to meet public demand. Furthermore, the Whistle Stop public-use cabins will be phased-in, with subsequent cabins developed as capacity thresholds are attained or need to disperse use is determined.

G14: Ensure Whistle Stop lodging is different than Huts lodging

Comment: Commenter wants to make sure that the lodging developed through the Whistle Stop Project is different than the lodging developed through the Hut-to-Hut Project.

Response: The proposed lodging for the Whistle Stop project is different than the proposed lodging for the Hut-to-Hut project. A total of up to six public-use cabins will be constructed, with a total capacity of up to 8 people/cabin. Furthermore, one group campsite has been identified in the selected alternative, with a capacity of approximately 25 people per site. Individual campsites are also proposed with a capacity of up to 8 people per site. Therefore, the proposed lodging for the Whistle Stop project differs substantially from the proposed lodging for the Hut-to-Hut project.

G15: Substitute public-use cabins for Huts

Comment: The Whistle Stop Project EIS should explore changing some of the proposed public-use cabins to Huts instead – particularly the public-use cabin at Bartlett.

Response: The Forest Service has identified the need for additional public-use cabins on the Glacier Ranger District that are accessible by land-based transportation. Our information shows high demand for these facilities and visitors seem satisfied with their configuration and capacity; therefore, our selected alternative with this proposal will continue to identify public-use cabins for this general type of overnight accommodations.

G16: Develop skier friendly trails

Comment: Trails throughout the project area (especially the Bartlett-Grandview area) should be established with skiers in mind.

Response: The Whistle Stop project is providing recreation access in the summer only. Therefore, the trails will be designed for summer use and specifically designed for hiker/pedestrian use, as the area is designated for summer non-motorized use according to the Forest Plan.

G17: Develop formal partnership with the State of Alaska

Comment: The State of Alaska should be a formal partner in developing the proposal so that all lands are developed in a unified way.

Response: We have been coordinating with the State of Alaska during the initial development of this project, with the goal of developing neighboring lands in a consistent manner. Currently, we are working on establishing formal agreements

that would solidify our partnership and help us move towards meeting several of our common management goals and objectives.

G18: Phase-in approach should focus on entire project area

Comment: Phase in approach should facilitate overall backcountry access instead of focusing on the Spencer area. At minimum, the FEIS should analyze different ways to phase in the construction of the project and in its decision the Forest Service should explain its rationale on this point.

Response: The phase-in strategy identified in the Record of Decision will help facilitate a mix of both day use and overnight recreation opportunities. It has been decided that the best location to accomplish this is at Spencer. The second stage of phasing-in development is proposed for the Grandview area, with a goal of connecting the two stops, thereby increasing the suite of recreation opportunities available for the widest array of users.

G19: Grandview is likely to be developed by the State of Alaska

Comment: The greater area at the Grandview site is likely to be developed by the State of Alaska. It is possible that putting in a Whistle Stop at Grandview will accelerate commercial development on the surrounding state lands. At the very least, no Whistle Stop development should take place at Grandview until the state has a management plan in place and the Forest Service has an agreement with the state that limits private development.

Response: The Forest Service is working with the Department of Natural Resources in Whistle Stop Project development with the hope that we will develop neighboring lands in manner that will meet the management goals and objectives of both agencies. At this time, the State of Alaska does not have any reasonably foreseeable plans for development near the project area that would contribute to environmental consequences.

G20: Inadequate Range of Alternatives

Comment: The DEIS does not provide an adequate range of alternatives that truly address social and wildlife impacts.

Response: The DEIS provided a range of alternatives (see Chapter 2) identifying a mix of infrastructure and development, including a no-action alternative and five action alternatives. Each of these alternatives, to varying degrees, addressed the significant issues identified internally and through public involvement.

G21: Only responsible alternative is Alternative 4

Comment: Only responsible alternative is Alternative 4 which offers the most protection to brown bears and compels the Whistle Stop Project to scale down its development.

Response: The Forest Supervisor evaluated all of the identified alternatives (including the no-action alternative) against the purpose and need for the project, major issues raised by the public and Chugach National Forest management direction. Alternative 4 was not chosen as the Selected Alternative as it did not adequately address the purpose and need for the project, nor adequately address the major issues brought forth by the public (See ROD pg. 21).

G22: Scale of the project is overwhelming

Comment: The scale of project is overwhelming. There is the potential of a minimum of 12 trains a day. Regardless of Alternative selected, develop the Project at a modest pace (with only Whistle Stops and trails at first) so that in the beginning a backcountry experience can be achieved.

Response: At full project-build out, there is the potential for four daily round trips through the project area. There is also the potential for additional rail traffic, either for freight trains or passenger trains not servicing the project area. The project will be developed at a modest pace, with the goal of phased-in development to provide the widest array of recreation opportunities for visitors. Additionally, overnight facilities will be phased-in according to demand, thereby ensuring modest and measured development.

G23: Rafting of Trail Creek

Comment: Using Trail Creek to launch rafts would make a round-trip from Moose Pass.

Response: Rafting of Trail Creek facilitated through Whistle Stop infrastructure at Hunter was considered in certain alternatives. It was not chosen in the Selected Alternative due to concerns with introduction of large numbers of users into the Brown Bear Core Management Area (BBCMA) (See EIS pg. 3-23 and 3-24 and ROD pg. 13).

G24: Potential increase in permitting of commercial recreation

Comment: DEIS has no reference to increased demands for permitting of commercial recreation should the project go through. It is inevitable that requests to operate commercial recreational activities will be “coming out of the woodwork.”

Response: The Forest Plan does allow for permitting of commercial recreation throughout the project area, and there is the potential for an increase in this type of recreation activity. To date the Forest Service has not received additional requests for commercial permits despite the fact that the Whistle Stop Project has been identified as a potential project for over two years. A separate NEPA analysis will be conducted for special use proposals in the project area.

G25: No variation in alternatives

Comment: There are no major differences in all the alternatives with the exception of Alternative 3.

Response: When developing a range of alternatives, the ID Team looked at the number and type of all proposed facilities and developed a wide range of alternatives that aimed to address both the number and size of various recreation facilities and the impact that facility development would have on the dispersal of visitors throughout the area. Each alternative that was developed was done so in response to issues that were received during initial public scoping and through analysis by Forest Service resource specialists. Please reference Chapter 2 of the FEIS, pages 2-1 through 2-5.

M: Minerals

M1: Recreational uses are not compatible with minerals operation at Spencer

Comment: Commenter feels that recreational uses are not compatible with the planned mining operation at Spencer.

Response:
The relationship between mining activities and recreation was identified as a significant issue in the EIS (EIS, pages 1-9 to 1-11). In response to this issue, the Interdisciplinary team (IDT) developed and disclosed the effects of Alternative 1 which locates all recreation development south of the Spencer Lake outlet (EIS, pages 2-2 and 2-3). The EIS describes the effects of the alternatives on mining operations, and specifically the effects on the approved mining plans of operation and minerals materials sales in the project area (EIS, pages 3-41 through 3-44). The EIS recognizes that recreation use will likely increase in the project area and could affect these mining operations (EIS, pages 3-41 through 3-44). However, at this time, the analysis has not determined that these uses are entirely incompatible or interfere with any of holder's rights (EIS, pages 3-41 through 3-44).

See response to comments M2 and M3

M2: Minerals Management Area precludes new recreation development

Comment: Commenter feels that the Minerals Management Area (MMA) classification precludes new recreation development within the MMA, according to the Forest Plan.

Response: The MMA prescription is applied to all project areas with an approved plan of operations, including mining claims in the project area and does not prohibit the development of new recreation facilities. The MMA specifically allows for, among other things, Forest Service recreation cabins, campgrounds, hardened campsites, day use facilities, and viewing sites provided that they are consistent with management intent, standards, and guidelines (Forest Plan 4-84 through 4-86).

In addition, although 360 acres of mining claims exist, the MMA only applies to the mining activity area, not the entirety of the mining claim (Forest Plan 3-33). In the project area, the approved plan has minimal mining activities; which consist of a campsite for 2 to 6 persons, a small piece of equipment for processing samples at the campsite, 2 ATVs and/or a pickup truck for hauling buckets of sample material to the processing site. Although recreation development can occur on the MMA, recreation development under the alternatives is not planned in areas of active, ongoing mining activity.

M3: Prefers Alternative 1

Comment: Commenter prefers Alternative 1 but in addition, requests movement of all trails from the mining claim area.

Response: The interaction between mining operations and recreation use was identified as a major issue that helped us craft alternatives for the EIS and select an alternative for the ROD. Our Selected Alternative balances the concerns raised by the public as well as our need to meet the project purpose and need. In the Selected Alternative, we minimize development located near existing mining claims; there are still though, minor developments in the area, but these remained in the Selected Alternative due to their location providing a superior recreation experience.

See response to comments M1and M2.

M4: Visitor impact to mining operations

Comment: Commenter is concerned with the potential of recreation activity creating issues with the safety, liability, user conflicts, operational efficiency, and possible vandalism of mining operation.

Response: We are aware of and understand the potential conflicts that could occur in the Spencer area with the recreating public and any potential future mining operations in the area. These potential conflicts will be addressed through mitigation measures which are detailed in Chapter 2 of the Final EIS. In brief, mitigation measures will include signage adjacent to developed recreation facilities (such as trails and campsites) detailing information such as on-going minerals activities and penalties for interfering with mining operations.

See response to comments M1and M2

M5: Locate Spencer recreation development far from potential mining

Comment: Commenter recommends that any development in the Spencer area be located as far as possible from the potential mining area. This would reduce potential visual and noise impacts to visitors desiring hiking or camping in a largely remote wilderness setting in the Chugach National Forest.

Response: All potential geographic areas within the greater-Spencer area were considered for locating recreational facilities. Attempting to minimize the interaction between recreation and mining activity and maximize recreational value, we arrived at the locations for recreation facilities identified in the Record of Decision.

See response to comments M1

M6: Recreation improvements will speed up mining activity

Comment: Commenter feels that there is a distinct possibility that [recreation] improvements at Spencer Lake will act as an incentive to the miners to exercise their claims on the grounds that they better do so as quickly as possible before they are prevented from doing so.

Response: Mining operations are controlled through a Plan of Operations that must be approved by the Forest Service. Furthermore, future recreation development will not preclude mining claim owners from developing their claims if a valid supply of materials can be proven to exist at the site.

M7: Major minerals extraction and recreation are incompatible

Comment: Placing major minerals extraction at Spencer along with recreation development seems fundamentally incompatible and could be a negative influence on users.

Response: Conclusions in the Whistle Stop Record of Decision and Final EIS are related to development of recreation infrastructure. Any decisions related to mining activity (whether locatable (for instance, gold) or salable (for instance, rock, sand or gravel) will be undertaken in different documents. The Whistle

Stop decision examines and discloses all reasonably foreseeable actions and decided the best possible location for development of recreation infrastructure.

See response to comments M1

M8: Forest Service policy for recreation development in the project area

Comment: It is the policy of the Forest Service not to site recreational developments on top of valid, active mining claims.

Response: Recreational developments, such as trails, commonly cross mining claims, and all claims are assumed valid unless determined to be invalid. There is a significant difference between siting over mining claims and siting over ongoing minerals operations. Siting such developments over production level minerals operations would be avoided.

MU: Motorized Use

MU1: No motorized use of trails

Comment: Commenter does not want to see any motorized use of trails throughout the project area. The whole project should be kept non-motorized.

Response: The Whistle Stop Project area is in the Forest Plan as an area that is classified as summer non-motorized. Therefore, the trails that are proposed in this document are proposed for non-motorized use. However, motorized use along existing roads in the Spencer area has been approved in the past for the permit holder conducting raft trips on Spencer Lake and the Placer River. This and any other motorized use (either through an approved mining plan of operations, administrative use or additional special use permits) in the Spencer area will be conducted on existing roads only.

R: Recreation

R1: Project is a short term profit opportunity

Comment: Commenter sees no “need” for the project and feels this is solely a short term profit opportunity.

Response: The Purpose and Need for the Whistle Stop EIS has three main components including providing backcountry access and increasing recreation opportunities; providing opportunities for visitor information and education; and providing a unique transportation experience. This project follows direction outlined at both the Regional and Forest levels. The Alaska Region Strategic

Business Plan identifies increasing outdoor recreation opportunities as a high priority (Objective 3(1)). The Chugach National Forest Plan identifies the need to provide opportunities for recreation in the Whistle Stop project area due to the Backcountry Management Area Prescription designation. In part, this designation calls for "evidence of human use such as trails, hardened campsites and historic structures." For detailed information on the Desired Condition in the Backcountry Management Area, please see the Chugach National Forest Plan, page 4-34.

RP: Recreation, Physical (i.e. scale of development)

RP1: Keep the project area remote

Comment: Commenter wants to keep the project area remote and feels that recreationists can utilize existing areas with recreation facilities. According to the commenter, "[t]he 'recreationists' have thousands of other acres already destroyed that they can utilize to satisfy themselves. This area should remain sacrosanct and no further development should take place."

Response: The entire Whistle Stop Project area encompasses approximately 73,553 acres of land in the northern Kenai Peninsula. The total amount of acres impacted by action alternatives ranges from 33.5 to 60 acres, resulting in a very small portion of impacted National Forest System (NFS) Land (see Tables 3-2 and 3-3, page 3-9 of the FEIS).

RP2: Bartlett and Grandview stops are too close

Comment: The Bartlett and Grandview stops are too close in location – only one of the two stops is needed. Commenter recommended keeping Grandview.

Response: All potential geographic areas were considered for locating Whistle Stops and recreational facilities. In considering locations, we took into consideration a number of resource concerns and issues (recreation experience, wildlife issues, etc.), as well as our goal of meeting the project purpose and need (most importantly in this case, providing diverse recreation opportunities). Our Selected Alternative includes Whistle Stops at both Grandview and Bartlett because together, the two stops provide a mix of diverse day and overnight recreation opportunities, as well as Bartlett providing a mid-way point between the Whistle Stops of Grandview and Spencer.

RP3: Trails should avoid sensitive areas

Comment: New trails should be designed to disperse users and avoid sensitive areas.

Response: Trail design and location will follow the Best Management Practices (BMP's) that are outlined in the Forest Plan. Please see the Mitigation section within Chapter 2 of the FEIS, which outlines the BMP's that will be followed during project implementation.

RP4: Group use area capacity is too large

Comment: The proposed group use area is too large for a backcountry experience – the Final EIS should show demand for this type of facility.

Response: The Selected Alternative substantially reduced the size of the group campsite, from 75 people in the Draft EIS to 25 people in the Selected Alternative. Demand for this facility is expected to be high. The one group campsite available through the Forest Service on the Kenai Peninsula is booked regularly throughout the summer months. Additionally, there is already demand for group activities in the Spence area, including Boy Scout and Celebrity Sports events.

RP5: Preferred alternative is too vast

Comment: Preferred alternative is still too vast – you didn't take into account comments during initial public scoping. Alternative 3 is not perfect, but is my preferred alternative.

Response: The entire Whistle Stop Project area encompasses approximately 73,553 acres of land in the northern Kenai Peninsula. The total amount of acres impacted by action alternatives ranges from 33.5 to 60 acres, resulting in a very small portion of impacted National Forest System (NFS) Land (see Tables 3-2 and 3-3, page 3-9 of the FEIS). Please reference the Record of Decision which identifies the changes made from the Preferred to the Selected Alternative.

RP6: Viewing platforms and boardwalks are excessive

Comment: Commenter feels that viewing platforms and boardwalks are excessive and should not be included in the Selected Alternative.

Response: The Selected Alternative identifies an approach that aims to minimize recreation infrastructure, striving in implementation to develop the minimum structure necessary to meet resource goals and the desired recreation experience. To this end, we will closely follow the Build Environment Image Guide, which steers the Forest Service to develop recreation infrastructure that fits the natural environment and remains subordinate to the landscape.

RP7: Level of infrastructure must equate to expected numbers and types of users

Comment: The FEIS should discuss the need and rationale for the levels of infrastructure planned in light of the expected numbers and types of project users.

Response: The infrastructure identified in the Selected Alternative will provide a suite of recreation opportunities, from easy to challenging, for a wide array of Chugach National Forest visitors. The level of infrastructure we will develop will be linked to the number of visitors who access the project area. For instance, we will be phasing-in overnight facilities (public-use cabins, campsites) as demand warrants and as dispersal of use requires.

RP8: Scale of Alternative 2 is too large

Comment: Commenter believes that Alternative 2 compromises the Alaskan backcountry experience by virtue of scale.

Response: In developing the Selected Alternative, I ensured that we would develop recreation facilities that not only dovetailed with our Forest Plan management prescriptions, but also did not compromise the remote feel of the project area. Therefore, the Record of Decision details numerous areas where we eliminated facilities that we either not appropriate to the setting, or were not essential to promoting the desired backcountry experience.

RS: Recreation, social (i.e., level of encounters)

RS1: Group sites are too large

Comment: Even 3 25-person capacity sites are too large for the backcountry nature of the area.

Response: The Selected Alternative will define the boundaries of the Developed Recreation Complex Management Area (MA). The group site that are identified in the Selected Alternative will be within this Developed Recreation Complex MA. According to the Forest Plan, the Developed Recreation Complex MA has a maximum Recreation Opportunity Spectrum (ROS) class of Rural. The Rural ROS class not only has a characteristic of no limit to the number of encounters one may have in this location, but also does not have an assigned maximum party size within its geographic boundaries.

RS2: Spencer area group size

Comment: Commenter believes that the maximum group size is 24 in the Spencer area.

Response: The Selected Alternative will define the boundaries of the Developed Recreation Complex Management Area (MA) within the Spencer area. Inside the area selected for the Developed Recreation Complex, the maximum Recreation Opportunity Spectrum (ROS) class is Rural. The Rural ROS class does not have an assigned maximum party size within its geographic boundaries. Outside of the Developed Recreation Complex, the geographic area consists of the Backcountry Management Prescription. Within this section of the Backcountry Prescription, the maximum ROS class is Semi-primitive non-motorized, which does have a maximum group size of 24.

RS3: Group sizes should be set lower for the project area

Comment: The Forest Service should ensure that the maximum party size for all facilities associated with this project (with the exception of potential large group facilities at Spencer Lake) be set at a lesser amount, e.g. 8 or 10.

Response: The Forest Service will follow all direction outlined in the Forest Plan regarding the maximum group size allowed in particular areas. Facilities that are developed will be designed to follow this group size direction.

RS4: DEIS does not provide credible recreational data and user information

Comment: Overall, the DEIS fails to provide credible recreational data and user information regarding patterns of recreational use on the Kenai Peninsula, and in the project area. There is insufficient notification of demand.

Response: Ridership on the Glacier Discovery Train (which services the project area) has increased approximately 55% from 2003-2005. It is important to keep in mind that ridership is increasing with only one recreation opportunity available for visitors. With implementation of the Whistle Stop Project, a number of new recreation opportunities will now be available, including both day and overnight trip possibilities. The expanded ability for visitors to exit the train and experience the Chugach National Forest will provide a high potential for increased visitation to the project area upon project implementation.

RS5: Compatibility of recreation and mining

Comment: The commenter is not clear how the current level of mining can be accommodated with a visitor's experience [in the Spencer area].

Response: Current mining activity is limited to small scale sampling, occurring on an irregular basis providing very little impact to the visitor experience.

RS6: Project will change area from backcountry to frontcountry

Comment: Commenter believes the project will change the area from backcountry to frontcountry. Therefore, they request that each aspect of this project be considered with the question of whether the visitor's backcountry experience would be significantly different if he/she accessed the location before or after the project is complete.

Response: There is no question that the visitor's backcountry experience will be different if they were to access the Whistle Stop Project area today versus after potential future project implementation. At this time, access is extremely limited, with no developed recreation infrastructure (see FEIS pages 3-3 through 3-5). Implementation of the Whistle Stop Project would alter this, with developed Whistle Stops and associated recreation facilities. Yet even with project implementation, the number of encounters that are predicted to occur within each geographic area is within the Standards and guidelines set forth in the Forest Plan (see the FEIS: Tables 3-5 and 3-6 on pages 3-12 and 3-13; and Appendix F which identifies the Projected Distribution of Recreation Use for the Whistle Stop Project).

RS7: Suggest backcountry permits

Comment: The area will suffer negative impacts to large numbers of people – visitor numbers need to be monitored and controlled to keep a backcountry experience. A suggestion would be to implement backcountry permits.

Response: With the vast majority of visitors accessing the project area via the Alaska Railroad, it will be relatively simple to determine the number of visitors accessing the project area. Additionally, more site specific monitoring can be undertaken by evaluating where visitors get on and off the train. The high level of control offered by train access will allow us to maintain visitation and use levels that are identified in our Revised Forest Plan.

SP: Special Uses

SP1: Special use numbers

Comment: The commenter has questions on the special uses numbers that are identified in the Draft EIS and requests an explanation – especially regarding Garrett's Angling Adventures and Wilkinson.

Response: Through our Special Use Permit Process, permittees request the ability to provide services in certain geographic areas, for a certain time of year, and for a certain number of service days (a service day is considered any portion of a day that a user spend on National Forest System (NFS) land, whether for 1 hour or 12 hours). In 2004, Garrett's Angling Adventures was allocated 25 service days and did not report the use of any of those days; in 2005, they were allocated 25 service days ands reported the use of 10 of those days. Similarly, Wilkinson was allocated 14 service days each year between 2003-2005, but did not use any of those days in any of the three seasons (see Appendix C of the FEIS for additional information).

VS: Viewshed

VS1: Project should promote an undeveloped viewshed

Comment: Commenter feels that the backcountry experience should be measured by the various qualities that users seek – wildlife viewing, solitude, undeveloped viewshed, etc.

Response: Part of the purpose and need of the project is to provide for a backcountry experience that was previously not available (EIS, page 1-2). The EIS describes the effects on the backcountry experience that can occur under the alternatives, including social effects (EIS, pages 3-7 through 3-13).

W: Wildlife

W1: Who conducted wildlife analysis?

Comment: Commenter is not satisfied with the wildlife analysis – who was consulted in this process?

Response: The wildlife analysis for this Environmental Impact Statement was conducted by the following individuals: Dr. Grant Harris has a PhD in Ecology from Duke University and led the analysis for this project. Substantial assistance was provided by Aaron Poe, who is in the process of earning a Masters of Science by studying patterns of human use across the Kenai Peninsula. Dr.

Sean Farley is employed by the Alaska Department of Fish and Game (ADF&G) and a regional expert on brown bears. He has led genetic work (Jackson et al. 2006) and human – bear interaction work (Rhode et al in prep.) on the Kenai Peninsula.

W2: Site specific impacts of increased human activity

Comment: The DEIS fails to analyze the specific impacts of railway traffic, facilities, new trails and viewing platforms, and increased human activity on wildlife species at each site.

Response: Because of the nature of this project, impacts will generally be similar throughout the project area, although influenced somewhat by the amount of infrastructure and visitation – the influence though will not be enough to warrant analyzing on a site by site basis. We focus a large amount of our analysis on the Brown Bear Core Management Area (BBCMA) because of the direction put forth in this prescription (See EIS, pages 3-13 through 3-25)

W3: Cumulative effects with motorized winter recreation and heli-skiing

Comment: The wildlife effects analysis does not include cumulative effects of the Whistle Stop Project when coupled with other current and proposed human activity associated with motorized winter recreation and heli-skiing.

Response: The Whistle Stop Project does not propose any winter use; hence it is unlikely that it will have cumulative effects with heli-skiing and motorized winter use.

W4: Develop a more comprehensive food storage protocol

Comment: Recommend that the DEIS develop a more comprehensive food storage protocol and work with the Alaska Department of Fish and Game to develop a bear safe Whistle Stop project.

Response: Chapter 2 of the FEIS includes a mitigation section, a portion of which focuses on mitigation for wildlife resources. As we implement the Whistle Stop Project, we will follow design features outlined in the above mentioned section, which aims to develop a system that will keep both bears and humans safe by minimizing opportunities for bears to become habituated to human foods or waste. Forest Service wildlife biologists will be consulted during project implementation, and they will consult additional specialists as necessary to achieve project goals.

WD: Wilderness

WD1: DEIS fails to address project's affect on suitability for designated wilderness

Comment: The DEIS fails to address direct, indirect, and/or cumulative impacts associated with this project including changes to wilderness character and how this project will affect the area's suitability for designated wilderness. Therefore, the agency is not in compliance with NEPA in this regard.

Response: The proposed activities are within inventoried roadless areas, which will be considered for wilderness recommendation in the next revision of the forest plan. None of the proposed activities will alter the roadless character of the areas to the degree they would no longer qualify; they will remain as roadless areas. The areas were considered for possible wilderness designation in the revised Forest Plan; however, in the final decision they were not recommended for designation as wilderness. They may again be considered in the next revision process for possible designation as wilderness. The additional activity within a roadless area will be a factor to consider in a decision to recommend or not recommend and area for designation as wilderness, however it will not prevent the area from being considered for designation as wilderness.

Chapter 5: Lists

List of Recipients

Copies of the Final Environmental Impact Statement (FEIS) for the Whistle Stop Project, on the Kenai Peninsula of the Chugach National Forest, were sent to the following organizations, businesses, and individuals. In addition to the names listed below, a postcard was sent to the Chugach National Forest mailing list, alerting people to the availability of the FEIS, and explaining the various ways one could obtain a copy of the FEIS and ROD.

Organizations

Alaska Railroad
Sierra Club
Alaska Huts (2 individuals)
National Wildlife Federation
The Wilderness Society
Alaska Quiet Rights Coalition

Agencies

Environmental Protection Agency

Individuals

Clarence A. Petty
B. Sachau
Gaye Sarvela
Kaylene Johnson
J. Dennis Stacey
Irene Lindquist
Pelham L. Jackson
Mike O'Meara
Joshua DeYoung
Thomas Lindquist
Joel Cooper
Bruce Jaffa
Carole Jaffa

List of Preparers

Interdisciplinary Team

Contributor	Contribution
Adam McClory	Recreation Analysis and EIS Preparation, M.S. in Forestry, 6 yrs. USDA-FS
Grant Harris	Wildlife Analysis, PhD. Ecology, 7 yrs. as an Ecologist, 2 yrs. USDA-FS
Carol Huber	Minerals Analysis
Sean Stash	Fisheries Analysis, M.S. Fish and Wildlife Mgmt., 5 yrs. USDA-FS
Bill MacFarlane	Hydrology Analysis, M.S. Watershed Science, 4 yrs. USDA-FS
Dean Davidson	Soils Analysis, M.S. Geochemistry and Surfical Geology, Soil Science and Hydrology, 31 yrs. USDA-FS
Betty Charnon	Vegetation Analysis, M.F. Master of Forestry, 14 yrs. USDA-FS
Lesli Schick	Heritage Analysis, B.S. Anthropology, 5 yrs. USDA-FS, 1 yr. DOI-NPS

Interdisciplinary Team Support Members

Contributor	Contribution
Steve Hennig	Recreation Analysis
John Eavis	Recreation Analysis
Tim Charnon	Recreation Analysis, EIS Review/Prep.
Aaron Poe	Wildlife Analysis
Josh Milligan	EIS Review/Prep.
Sharon Randall	EIS Review/Prep.
Teresa Paquet	Special Uses Analysis
Susan Rutherford	EIS Review/Prep.
Carl Madson	GIS Support

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Appendix A. Alaska Railroad *Glacier Discovery* Ridership, 2003-2005

Terminus of trip	2003	Riders/ day	2004	Riders/ day	2005	Riders/ day	Average Riders/yr.
Spencer	1,575	13	2,015	16	2,958	24	2,183
Grandview	1,133	9	1,305	11	1,223	10	1,220
Total	2,708		3,320		4,181		3,403

Season of use is typically between May 15-Sept. 15 (124 days). This number is used to determine the average number of riders per day and year.

Appendix B. Outfitter and Guide use related to the Project Area

			YEAR					
Permit Holder	**Season**	**Activity**	**2003 Authorized use**	**2003 Actual use**	**2004 Authorized use**	**2004 Actual use**	**2005 Authorized use**	**2005 Actual use**
Alaska Snow Safaris *	Winter/ spring	Snowmobile tours	575 service days (covers Placer & 20Mile Rivers & Turnagain Pass)	-0- Placer didn't open due to inadequate snow coverage	575 days allocated	248 days reported for Placer River	575 days allocated	Final use not submitted as of 12/13/05
Glacier City Snowmobile Tours *	Winter/ spring	Snowmobile tours Placer drainage, Spencer Lake	150 service days allocated	-0- Placer didn't open due to inadequate snow coverage	300 days allocated added Spencer glacier	242 days reported	300 days allocated	Final use not submitted as of 12/13/05
Chugach Powder Guides *	Winter/ Spring	Heli-Skiing	1,200 service days for CPG's operating area, use not restricted to any one unit. 4 CPG use areas overlap Whistle Stop project area.	531 service days	1,200 service days (includes entire operating area	404 service days	1,800 service days (includes other authorized core areas)	728 service days
Glacier City Snowmobile Tours	Summer	Snowmobile tours on Spencer Glacier	450 service days allocated	12 days reported	450 days allocated	71days reported	450 days allocated	No use, operation moved out of project area

			YEAR					
Permit Holder	**Season**	**Activity**	**2003 Authorized use**	**2003 Actual use**	**2004 Authorized use**	**2004 Actual use**	**2005 Authorized use**	**2005 Actual use**
Garrett's Angling Adventures	Summer	Sport fishing & sightseeing on Placer River	25 service days allocated	15 days reported	25 days allocated	No use reported	25 days allocated	10 days reported
Alaska Backcountry Bike Tours	Summer	Bike tours	150 service days allocated	37 days reported	150 days allocated	37 days reported	150 days allocated	33 days reported
Austin-Lehman	Summer	Mounting biking & hiking	25 service days allocated	38 days reported	25 days allocated	58 days reported	25 days allocated	59 days reported
Alaska Pacific University	Summer	Hiking & camping	----------	----------	----------	----------	80 days allocated	Final use not submitted as of 12/13/05
Class V	Summer	Rafting Placer River & Spencer Lake. Canoeing, hiking, camping, picnicking & basecamp @ Spencer Lake	1,500 service days allocated	1,342 days reported	5,000 days allocated (includes 1,000 for picnicking @ basecamp only)	1,814 days reported	5,000 days allocated	2,792
Wilkinson	Year round	Skiing in Placer Valley, canoeing on Placer River, hiking, camping, & mtn. biking on Johnson Pass trail	14 service days allocated	0 days reported	14 days allocated	0 days reported	14 days allocated	0 days reported
Alpine Air	Year round	Flight seeing on Spencer Glacier	20 days allocated for Spencer Glacier	3 service days reported	20 days allocated for Spencer Glacier	19 service days reported	40 days allocated for Spencer Glacier	20 days reported
Outer Limits *will not be renewing in 06*	Year Round	Sightseeing and day snowshoeing on Spencer Glacier	----------	----------	----------	----------	10 service days	0 days reported

*Skookum Glacier area located within the project area is closed to motorized use after March 31 of each year.

Appendix C – Winter Recreation Use on the Glacier and Seward Ranger Districts (*figures from Observations at Winter Access Points on the Glacier and Seward Ranger Districts)*

Access points in bold are areas of potential entry into the project area.

Glacier Ranger District (12/4/99 through 4/13/03)

Access point	Average Use per Weekend Day (#of vehicles)		Highest use per weekend day (# of vehicles)	
	Motorized	Non-motorized	Motorized	Non-motorized
Twentymile	3	<1	14	4
Placer River	**9**	**<1**	**35**	**7**
Ingram Drainage	<1	10	5	35
Turnagain Pass	32	14	128	40
Johnson Pass North	7	5	15	7

This data is based on observations of vehicles parked at the access point. A complete compilation of winter use access counts is available on request from the Glacier Ranger District.

Seward Ranger District (12/1/99 through 4/8/02)

Access point	Average Use per Weekend Day (#of vehicles)		Highest use per weekend day (# of vehicles)	
	Motorized	Non-motorized	Motorized	Non-motorized
Moose Pass Community	**4**	**0**	**20**	**0**
Johnson Pass South Trailhead	**2**	**<1**	**6**	**4**
Snow River	<1	3	4	6
Bear Creek	2	3	19	10
Lost Lake Trailhead	24	<1	56	6
Primrose Creek Trailhead	13	<1	30	1
Snug Harbor Road	24	<1	56	6

This data is based on observations of people at the trailhead (getting ready to leave or coming back from their trip) and vehicle counts with a base assumption of a certain number of people per the type of vehicle parked at the access point (i.e. number of snowmachines able to fit on one trailer, size of vehicle, etc.). A complete compilation of winter use access counts is available on request from the Seward Ranger District.

APPENDIX D: Biological Evaluation for Threatened, Endangered or Sensitive Species.

CHUGACH NATIONAL FOREST - Biological Evaluation

Date:
Project Name: Whistle Stop
District: Seward and Glacier Ranger Districts
Project Type: Recreational permit
Location: Seward and Glacier Districts.
Project Actions:
Vegetation/Habitat Type : Trails, cabins, camping and rafting in forest, riverine and alpine zones

I. Prior Biological Evaluation				**No**	**Yes**
Prior Project BE: Sensitive Plants	Date:				
Prior Project BE: Wildlife	Date:				
II. Species and/or Habitat				**No**	**Yes**
2. Previous Species Observation				X	
3. Federally Listed Species Present				X	
4. Habitat For Federally Listed Species Present				X	
5. Sensitive Species Present					X
6. Habitat For Sensitive Species Present					X
III. Analysis of Effects				**No**	**Yes**
1. Significant Habitat Alteration				X	
2. Effects Outside Project Area				X	
3. Cumulative Effects on Listed Species or Habitat				X	
4. Cumulative Effects on Sensitive Species or Habitat				X	
IV. Determination of Effects				**No**	**Yes**
1. No Affect Threatened, Endangered, or Proposed Species					X
2 May Affect Threatened, Endangered, or Proposed Species				X	
3. May Affect Individual Sensitive Species					X
4. May Affect Sensitive Species' Population Viability				X	
V. Consultation Requirements				**No**	**Yes**
1. Formal Consultation Required				X	
2. Additional Informal Consultation Required				X	

Based on the findings above and the size and effect of the proposed project, a detailed biological evaluation and further consultation are not required.

Appendix E. Projected Distribution of Recreation Use for the Whistle Stop Project.

Scenario with Existing Train service – 1 trip/day = 205 people

Phase	Total people/day	Camping/ Extended (20% of total people)	Spencer	Grandview	Luebner	Day trippers (80% of total people)	Spencer	Grandview	Luebner
Phase I – Spencer	**205**	41	41 (100%)	---	---	**164**	164 (100%)	---	---
Phase II – Spencer & Grandview	**205**	41	37 (90%)	4 (10%)	---	**164**	123 (75%)	41 (25%)	
Phase III – Spencer, Grandview & Luebner	**205**	41	33 (80%)	4 (10%)	4 (10%)	**164**	115 (70%)	33 (20%)	16 (10%)

- Bartlett is not constructed with the Existing train service scenario because the train is unable to start/stop on the steep grades where the Whistle Stop is proposed.
- Hunter and Trail Creek are not built because there would be no capability (time) to complete a day raft trip of Trail Creek (from Hunter to Trail Creek).

Scenario with DMU and Phasing – 4 trips/day = 672 people.

Phase VI is the distribution of use for the Proposed Action and Alternative 1. Phase V is the distribution of use for Alternative 2. Phase IV is the same distribution of use for Alternative 3. Alternative 4 is displayed as a separate line as the stops developed do not follow a Phasing pattern outlined below.

Phase	**Total people/ day**	**Camping/ Extended (20%)**	**S**	**G**	**B**	**L**	**TC**	**H**	**Day trippers (80%)**	**S**	**G**	**B**	**L**	**TC**	**H**
Phase I – Spencer	672	**134**	134 (100%)	---	---	---	---	---	**538**	538 (100%)	---	---	---	---	---
Phase II – Spencer, Grandview	672	**134**	121 (90%)	13 (10%)	---	---	---	---	**538**	404 (75%)	134 (25%)	---	---	---	---
Phase III – Spencer, Grandview, Bartlett	672	**134**	108 (80%)	13 (10%)	13 (10%)	---	---	---	**538**	376 (70%)	81 (15%)	81 (15%)	---	---	---
Phase IV – Spencer, Grandview, Bartlett, Luebner	672	**134**	95 (70%)	13 (10%)	13 (10%)	13 (10%)	---	---	**538**	376 (70%)	54 (10%)	54 (10%)	54 (10%)	---	---
Phase V – Spencer, Grandview, Bartlett, Luebner,Trail Creek	672	**134**	95 (70%)	15 (11%)	10 (7%)	10 (7%)	5 (5%)	---	**538**	376 (70%)	54 (10%)	54 (10%)	54 (10%)	---	---
Phase VI – Spencer, Grandview, Bartlett, Luebner, Trail Creek, Hunter	672	**134**	95 (70%)	11 (8%)	11 (8%)	11 (8%)	3 (3%)	3 (3%)	**538**	322[1] (60%)	54 (10%)	54 (10%)	54 (10%)	---	54 (10%)

[1] 10% taken from Spencer and placed under Hunter for projected day use rafting

Phase	Total people/ day	Camping/ Extended (20%)	S	G	B	L	TC	H	Day trippers (80%)	S	G	B	L	TC	H
Alt. 4 – Spencer, Luebner, Bartlett	672	**134**	108 (80%)	---	13 (10%)	13 (10%)	---	---	**538**	403 (75%)	---	81 (15%)	54 (10%)	---	---

Assumptions:

- Overall percent of day users (80%) and overnight users (20%) were taken from the Alaska Railroad/U.S. Forest Service business plan that was developed for the project. This percentage was derived by assessing the total potential market for the two broad user types and predicting how both Alaskans and out-of-state visitors would structure a recreation visit to the Whistle Stop area.
- The majority of day and overnight users will make Spencer a primary destination for their trip. The primary reasons for this are the proximity of natural attractions (glaciers, Spencer Lake, Placer River) and the proposed recreation facility developments.
- Development of a Whistle Stop at Grandview will draw a portion of day and overnight users from the Spencer area. Primary reasons include the proximity of natural attractions and the potential ability for users to increase their feeling of solitude in relation to the Spencer area.
- The Bartlett stop will provide users with the shortest hike to a glacier along the entire train route, therefore a Whistle Stop at this location will draw a number of day users from Spencer and Grandview. Users looking for fewer encounters than at Spencer will see Bartlett as an attractive option. The overnight facilities proposed for Bartlett will draw some users from the Spencer and Grandview areas.
- Development of Luebner Lake will primarily effect the distribution of day use throughout the project area. Watchable wildlife opportunities and the possibility of fewer encounters than at Spencer will draw some visitors to this location.
- With the ability to conduct day long raft trips on Trail Creek, a small percentage of day use (visitors engaged in rafting opportunities) will be redistributed from Spencer to Hunter.
- Two dispersed campsites were allocated to each Whistle Stop station. In addition, dispersed campsites were allocated equally along the Glacier Discovery Trail. This assisted with development of percentages of overnight use within the geographical area of each Whistle Stop.
- S= Spencer; G= Grandview; B= Bartlett; L= Luebner; TC= Trail Creek; H= Hunter

Appendix F. Levels of Site Modification – FSM 2300

Development Scale	Level of Site Modification
1	Minimum site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials excluded. Minimum controls are subtle. No obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access not provided or permitted.
2	Little site modification. Rustic or rudimentary improvements designed primarily for protection of the site rather than the comfort of the users. Use of synthetic materials avoided. Minimum controls are subtle. Little obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access provided or permitted. Primary access over primitive roads. Interpretive services informal, almost subliminal.
3	Site modification moderate. Facilities about equal for protection of site and comfort of users. Contemporary/rustic design of improvements is usually based on use of native materials. Inconspicuous vehicular traffic controls usually provided. Roads may be hard surfaced and trails formalized. Development density about 3 family units per acre. Primary access may be over high standard roads. Interpretive services informal, but generally direct.
4	Site heavily modified. Some facilities designed strictly for comfort and convenience of users. Luxury facilities not provided. Facility design may incorporate synthetic materials. Extensive use of artificial surfacing of roads and trails. Vehicular traffic control usually obvious. Primary access usually over paved roads. Development density 3-5 family units per acre. Plant materials usually native. Interpretive services often formal or structured.
5	High degree of site modification. Facilities mostly designed for comfort and convenience of users and usually include flush toilets; may include showers, bathhouses, laundry facilities, and electrical hookups. Synthetic materials commonly used. Formal walks or surfaced trails. Regimentation of users is obvious. Access usually by high-speed highways. Development density 5 or more family units per acre. Plant materials may be foreign to the environment. Formal interpretive services usually available. Designs formalized and architecture may be contemporary. Mowed lawns and clipped shrubs not unusual.